

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

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Editor's Table.

For the contents of this number see the General Indexes.

We find that the recent ruling of the Post Master General does not admit bees to the mails.

We expect to attend the Conventions at Carson City, and Grand Rapids, Mich., on the 3d and 4th of December, and hope to see a large attendance at each one.

Syrups are carried by railroads at fourth class rates, but extracted honey in barrels is charged first class rates—a manifest injustice to honey producers and consumers.

A swarm of bees at Cold Spring, Conn., hived in a chimney flue, which they stopped up with comb five and half feet wide. Sixty-seven pounds of honey were there found stored away.

To create a demand for your honey—scatter the small pamphlet on “Honey as Food and Medicine” among all the consumers in your vicinity. See new prices on the third page of the cover of this JOURNAL.

The Hastings (Minn.) *Gazette*, has an excellent description of the apiary of Mr. Wm. Dyer, of that city. Mr. D. is a progressive and successful apirist, and fully entitled to the honorable mention of the *Gazette*.

The wise weather prophets say that the coming winter will in all probability be one of the most severe we have experienced for some time. Let the bees be well prepared for such, so that they may not suffer, if it comes.

In Whately, Mass., Asa J. Crafts has bees that have descended and been kept by his father, grandfather, great grandfather and great, great grandfather, John Crafts, who died in Hatfield, May 23, 1730. His son Benoni Crafts, one of the earliest settlers in Whately, brought them thither about 1758.

The Rev. L. L. Langstroth has, during the past month, made a very pleasant visit to Prof. Cook, and the Michigan State Agricultural College. We are glad that his health is so far recovered as to allow of this visit. It will no doubt be as invigorating to his physical system, as it has been replete with intelligent associations.

We can hardly consent to close the present Volume without entering our most earnest protest against the use of glucose for feeding bees. A report has just come in where an apiary of several hundred colonies has been entirely destroyed by feeding them glucose, or grape sugar as it is called. It was $\frac{1}{2}$ honey and $\frac{1}{2}$ glucose; but the bees are all dead and their foolish owner is a wiser but a poorer man! A clergyman had 8 colonies, and fed them glucose, but they all died, leaving him to mourn the loss. Let us say, *Beware!* It is poison, rank and deadly!



On the night of November 5, our apiary was robbed by boys in search of sweets, and fond of adventure. The weather was cold and the bees not active, and hence they succeeded in the robbery. They took 8 frames (mostly honey) from one colony, leaving only 2. The bees they brushed off in a wooden building adjoining. They succeeded in carrying off quite a load of frames with honey and brood, and destroyed many bees.

In September we had 14 colonies of bees destroyed by the Railroad Company, in transit, by rough handling. Every comb was broken down, all the bees and queens were killed, and the honey had all leaked out in the car. The way that railroad employes handle goods, it is wonderful that anything goes safely.

When binding the JOURNAL, cut the threads and remove the title and Index to Correspondents from the centre of this number, and place it in front of the January number. Leave the Indexes at the end where they are. These Indexes are full and complete, and will be found very convenient, enabling any one to find the article desired in a moment. These Indexes have cost us much time, patience and labor.

CLUBS.—Those who feel disposed to get up clubs for next year are requested to send to us for extra copies to use for that purpose. Quite a number of clubs have already been sent in, and many more have signified their intention to get up clubs. It is indisputable that the AMERICAN BEE JOURNAL stands at the head of all bee-papers, and with its enlarged size, and decreased price it is an easy matter to get up clubs in every County. It is not only the best, but the cheapest Bee Publication in the World, considering its size and matter,—\$1.50 per annum. See our new clubbing rates on page 440 of this number.

Samples of the NEW comb foundation, with and without wire, will be sent from this office for 10 cents.

The Louisburg (Kansas) *Herald*, gives the "American Apiary" of Mr. Paul Dunken a two-and-a-half column illustrated notice. The *Herald* says that Mr. D. was offered \$1,500 for his bees and a situation with a salary of \$70.00 per month to take charge of an apiary near St. Louis. Mr. D. in his wisdom refused the offer.

The *Courier and Reveille* of Seneca Falls, N. Y., the *Standard* of Cedar Rapids, Iowa, and the *Pilot and Register* of Marion, Iowa, have during the month contained unsolicited kind notices of the Editor of the BEE JOURNAL. Having spent nearly a quarter of a Century in the Newspaper business in these places, and having a host of friends in each, we appreciate the spontaneous action of these brethern of the Press. Thanks; gentlemen; Thanks.

Mr. Jno. R. Clark, Roselle, N. Y. has sent us Mrs. Lizzie E. Cotton's latest circular, and wants to know if it is safe to send money to her for her hive, bees, &c. At the National Convention, Mr. L. C. Root, produced one of her advertisements, as published in the *Country Gentleman*, stating that every hive of bees kept on her plan would produce a profit of \$50. yearly. It seems to us that such a claim should at once show that no credence should be given to any statements from one whose claims are so preposterous. Letters have been published within a year stating that the writers had sent money to her, but could get no returns. A little thought and the exercise of a small share of common-sense would prevent any one from sending money in answer to such extravagant advertisements. Such results cannot be obtained; and money sent to obtain instructions to do it, is only thrown away. We know nothing of Mrs. Cotton, personally, further than that she wrote us a year ago asking if we would publish an article from her, and we replied that if she sent it to us, it would receive the same attention as other correspondence, and be criticised if published, just as other articles are. But she never even dared to send it, on those terms! Our advice to all is, therefore, give no credence to any of her statements! She dares not come to the light of the BEE JOURNAL—even though she talks so boastfully in her circular.

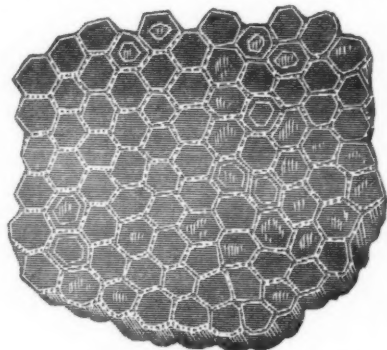
Petrified Honey Comb.

Mr. E. R. Douglass, of Martinsburg, Mo., has sent us another piece of this peculiar stone formation, which he says he picked up in a neighbor's yard, and asks "What is it?" Our friend Prof. Cook very kindly answers this question by the following interesting article:

MR. EDITOR: In your November number, p. 372, you speak of petrified honey comb, from Seneca Falls, N. Y. We have many such specimens in our museum. In some cases the cells are hardly larger than a pin-head, in others a quarter of an inch in diameter.

These are not fossil honey comb as you were led to believe, though the resemblance is so striking that no wonder you and the public generally are deceived. These specimens are fossil coral, which the paleontologist places in the genus *Favosites*; *favosus* being a common species in our State. They are very abundant in the lime rock in northern Michigan, and are very properly denominated honey-stone coral. The animals of which these were once the skeletons, so to speak, are not insects at all, though often called so by men of considerable information. It would be no greater blunder to call an oyster or a clam an insect.

The species of the genus *Favosites* first appeared in the Upper Silurian rocks, culminated in the Devonian, and disappeared



in the early Carboniferous. No insects appeared till the Devonian age, and no Hymenoptera—bees, wasps, etc.—till after the Carboniferous. So the old-time *Favosites*, reared its limestone columns and helped to build islands and continents untold ages—millions upon millions of years—before any flower bloomed, or any bee sipped the precious nectar. In some specimens of this honey-stone coral, there are to be seen banks of cells, much resembling the paper cells of some of our wasps. This might be called wasp-stone coral, except that both styles were wrought by the self-same animals.

I enclose drawings illustrating two speci-


mens to be seen in our museum, one showing the banks or rows of cells.

A. J. Cook.

The engravings will give our readers




a very accurate idea of how these specimens appear.

 The Rev. L. L. Langstroth writes concerning the National Convention lately held in New York:

"That was a grand Convention. Those of the old style were of very little worth. Too much scheming for mere personal interests. Our National re-unions should be the grand arena for the best thoughts and words of our ablest men."

We hope the next National Convention, in this city, will be even more of a grand success than any that have preceded it. The West has long desired to have such a Convention, and now it has been located in Chicago, let the attendance be the largest, as well as the proceedings more interesting than ever. Our New York apiarists will be on hand in strong numbers, and those from the Middle and Western States will be fully represented. The Rev. L. L. Langstroth is expected, as well as the ablest living apiarists on the Continent.

 Mr. John M. Putnam, of New Orleans, La., has sent us a flower stem and leaves of the Japan Pear, which was in profuse bloom there all through October, furnishing excellent pasturage for bees.



One Dollar and fifty cents in advance will procure the BEE JOURNAL for 1879. Clubs of five for five dollars, cash with the order. Two dollars per year in all cases, as heretofore, when not paid for in advance.

D. D. Palmer passed through the city last week with a car-load of honey, going east.

Those wishing a Premium Queen for getting up Clubs will now please send five subscriptions and \$7.50, and we will send them a choice queen in July.

Our new Illustrated Catalogue of "Implements for the apiary" will be ready in a few days and will be sent to any address on application.

A. Stiles, Genoa, Iowa, offers to sell 14 Vols. of AMERICAN BEE JOURNAL for \$20.00. He says: "I owe my success to the A. B. J., but my infirmities compelled me to sell my bees and give up the business."

Silver is now flooding the country and the old "postal currency" is getting scarce. Therefore for fractions of a dollar it is best to buy postage stamps, when sending to this office. One, two or three cent stamps are always useful to us.

The Michigan *Homestead* is the title of a new agricultural paper in Detroit, Mich., the first number of which is on our desk. It is a large and handsome sheet, and is well-filled with good matter. It is published at \$1.50 per year.

PRINTED ENVELOPES.—We have gotten up some neatly printed envelopes containing the card of the AMERICAN BEE JOURNAL. On these we will print a card of honey producers, and furnish them by mail postpaid for 50 cents per 100; \$1.00 for 250; \$1.75 for 500; or \$3.00 for 1,000. Samples furnished free upon application.

F. F. Collins, of Dallas, Texas, has been in Chicago and vicinity for a week past, and has chartered two cars for Texas, taking comb and extracted honey, and lumber for hives, crates, boxes, &c. He uses the Langstroth hive and prize boxes, and took all the premiums at the Texas State Fair last fall, on bees and honey.

The queen spoken of on page 368 of the BEE JOURNAL for November we learn was from an apiary in Crown Point, Ind. From the letter of Mr. Spaulding we inferred that it was the one we sold him, as he spoke of both in that connection.

We have been obliged to defer publishing the Proceedings of the North-East Wisconsin Association till our next No. The report is quite long, and we could not do justice to it in the space available in this number of the JOURNAL.

The Maryland *Farmer* is an old and reliable paper for the farm and fireside, and can be obtained clubbed with the BEE JOURNAL for \$2.50 per year, for both. It is conducted with spirit and is reliable authority on all matters pertaining to the farm.

When packing comb honey in boxes, straw is a detriment to it, and of no advantage whatever. It so persistently becomes scattered over the honey, and packing down so easily, its presence is not only no protection, but objectionable.

PURE LINDEN HONEY.—For certain reasons I am particularly desirous of having an analysis of *unquestionably* pure linden or basswood honey, made by the able Prof. of Chemistry, Mr. R. C. Kedzie, of the State Agricultural College, Lansing, Michigan. Any bee-keeping friend advising Prof. Kedzie that he can send a quart of such honey, can learn how to send it, and will confer a personal boon upon.

L. L. LANGSTROTH.

CANADA.—All interested in calling a Convention, are requested to communicate with Mr. W. G. Walton, Hamilton, Ont., who will if desired make proper arrangements for holding such the coming winter.

The petition against adulteration will be presented to Congress in January. Let all who favor it, send for a copy at once, and get it signed and returned to Mr. Dadant, in time to go with others. Mr. Charles Oliver, of Spring, Pa., has just returned three petitions containing 360 names. There is no time to lose now.

"CARMEN."—By Prosper Merimee. The original work, from which the opera of "Carmen," now being presented by Miss Minnie Hauk and Miss Kellogg, was dramatized, has been translated into English from the French, and will be published in a few days by T. B. Peterson & Brothers, Philadelphia, in their popular square duodecimo form, price fifty cents, uniform with "Theo," "Kathleen," "Savell's Expiation," "Dosia," "Marrying off a Daughter," and "Sonia," published by the same firm.

Welcome to an Old Friend.

The Rev. L. L. Langstroth has so far recovered from his prostration of several year's standing that he is able again to attend to his correspondence, and offered to furnish an interesting article for our last JOURNAL. Why it did not appear is explained by the following, which came to hand just as we were going to press :

Oxford, O., Oct. 25, 1878.

FRIEND NEWMAN:

After promising you an article for Nov. I found myself so overwhelmed with business after my long sickness, that I could not get it ready—will send it for Dec. No. I desire through the AMERICAN BEE JOURNAL to assure all your readers of my hearty sympathy and co-operation, to the extent of my ability, in all efforts, to advance the best interests of apiculture. Very truly your friend,

L. L. LANGSTROTH.

In a recent letter Mr. L. promises us some interesting articles on "The personal reminiscences of an old bee-keeper;" in which he will tell how he became interested in bees, and relate the steps by which he reached the invention of movable frames. He will also give the history of the importation of Italian bees, &c. These recollections will be exceedingly interesting to many of our readers, and we feel sure that they will be read with more than ordinary attention by all. We hereby renewedly tender to Mr. Langstroth, the veteran scientific bee-keeper of America, a hearty welcome to the BEE JOURNAL. We are glad to know that his interest is unabated in the subject of bee-culture.

At the Michigan State Fair, we notice that Frank Benton carried off 9 prizes, being for box honey, hive, Italian bees, nucleus, extractor, smoker, veil, comb foundation, introducing cage, &c. H. D. Cutting, W. Spedding and Henry Bidwell took the other prizes in this department. The committee of award embodied the following in their report: "Your committee desire to make particular mention of exhibits by Frank Benton, of Detroit, all of which must be of great practical use to all engaged in the bee business. We have recommended a small discretionary premium, but suggest that instead of the premi-

ums a diploma be given for each article. The honey is all good, and it has been a difficult matter for us to decide which is best."

ANOTHER SMOKER.—Mr. Scovell has sent to our museum a smoker which he has made, and asks our opinion of it. It is in all essential features a copy of the Bingham smoker; the few changes but weaken it, and makes it less desirable. It has the essential "cut off," but located differently, and a small wire hook to hang it up by. Should it be hung up while hot, close to any thing inflammable, a damaging fire may be the result.

Mr. A. J. King, in his address before the National Convention, on the "History of bee-keeping," remarked:

"Mr. Quinby, invented the best form of bellows smoker then in use, which has been further improved by the addition of the direct draft principle, invented by Mr. T. F. Bingham, which leaves nothing more to be desired in this line."

We fully agree with Mr. King. The smoker of Mr. Scovell and also the one made by Mr. King, are efforts to utilize the direct-draft principle, which has made the Bingham smoker so popular. In form both are like Bingham's, but more complicated, requiring machinery to do imperfectly what Bingham's accomplishes perfectly without.

Had Mr. Bingham made no effort to patent his smoker, it is quite probable that no practical effort would have been made to make any different!

Until they can get up something essentially different from the Bingham smoker that will accomplish the same result, we advise all to be satisfied therewith. Bingham's inventive genius is entitled to the full credit of his excellent invention of the direct-draft as applied to smokers.

The papers almost without exception are now proclaiming the advent of better times—the "panic" and "hard times" seem to have spent there fury upon us, and the heavens look brighter. The general "thanksgivings" of the past week have therefore been hearty and appropriate.



Seasonable Hints for December.

The bees being now in winter quarters, every wide-awake bee-keeper will be looking around, and preparing for next seasons' wants. Making hives, honey boxes, &c., should be foremost in the catalogue of preparations; and for these, well-seasoned lumber should be selected. The hives must be substantially and accurately put together, and should be well painted. Hives thus made cost a little more than the "heap-by-cheap" ones, but are much the cheapest in the end.

Some will find it to their advantage to purchase hives cut, ready to nail together, and for boxes and sections, this plan will be economy for almost all. Care should be taken to have good materials—quality being of more importance than price. It will be well, of course to buy as cheaply as is consistent with obtaining first-class articles.

If you order hives, or material for them, boxes, crates, &c., do so early enough to avoid delays caused by the rush of those who neglect it till just as they need them.

The producer should bear in mind that uniformity of packages for comb honey is very important. To this end let all use the prize box. It can be used on any hive and may be glassed or not as may desired. Use tin separators between all combs of surplus, so that they will pack well together, whether glassed or not. Let the tin separators come to within one-half inch of the top and bottom of the boxes, thus leaving a passage way for the bees above and below, and preventing their building out wider, as they will be likely to do, if the separator leaves more space than one-half inch at either top or bottom.

Use the prize crate for shipping; it will contain one dozen prize boxes or sections and may be glassed, if the boxes are not. Ship all honey with the top bar downwards, as that often saves weak combs from being broken down, and all in the crate being "mussed up"

by it. If comb honey be sent by freight, it is all important that it is properly labelled "this side up; handle with care;" and have crates all properly addressed. When possible, see to packing it into the car, and always have the combs ride lengthwise of the car, so that the "bumping" will not be likely to break them down. Labels are just as essential when sent by express.

Exporting Honey to Germany.

The San Diego (Cal.) *Union* remarks on this subject as follows:

"Mr. C. J. Fox expects to ship one hundred barrels more of our first-class San Diego honey to Germany by the next steamer. We have a notion that when the German palate gets a good taste of our honey there will be a steady demand for it over there. It is the cheapest sweet that the people can use, while the quality cannot be equaled."

The Los Angeles *Star* adds:

"Those desiring to ship to Europe through Mr. Fox, can consign their honey to his agent, Robert Difan, 204 Sansome street, San Francisco. The packages should be marked P. Liefmannsohne, Hamburg, Germany."

"The Los Angeles Bee-Keepers' Association has pledged the patronage of its members to the proposed new line of steamers to ply between Santa Monica and San Francisco. The proposition set forth by the proposed line is to the effect that they will carry freights to 'Frisco at \$2 per ton and passengers at \$8 for the term of ten years, provided the business men of Los Angeles will sign an agreement to patronize said line for the specified time. The annual shipment of honey from this county is no small item, and we are satisfied that the bee-keepers of Los Angeles will pledge themselves to a man to such a measure."

In the notes concerning our visit to the East in the *JOURNAL* for last month, we inadvertently omitted to mention a very pleasant visit with Mr. Theo. C. Van Allen, and his parents, as well as the Albany County Convention, presided over by Mr. H. W. Garrett, and held at Chesterville. In the hurry succeeding our absence from home for over three weeks, it was omitted.

In the winter we enjoy the fruits of the little honey bee's labor during the summer.

Review of a Year's Work.

Volume XIV of THE AMERICAN BEE JOURNAL is now complete! Our work for the year 1878 on the JOURNAL is done! How well it is done our readers must judge. It is a source of much pleasure to us to find such a unanimous approval. As samples of encomiums expressed in letters published during the year, we give the following: To these and the hundreds of others, whose "kind words" were not published, let us say, Thanks! Many thanks! We will add that it is our determination to make the JOURNAL for 1879 better than ever:

"God-speed the AMERICAN BEE JOURNAL."—Isaac F. Plummer, Augusta, Maine.

"I learn something from every copy of the BEE JOURNAL."—C. H. Dibbern, Milan, Ill.

"You have worked up the BEE JOURNAL almost to perfection."—Orion Siggins, West Hickory, Pa.

"I think the BEE JOURNAL the 'Boss'! It is the first paper I read."—J. H. Riley, Connersville, Ind.

"I would not do without the BEE JOURNAL for three times its price."—J. E. Kearns, Waterloo, Pa.

"I find the BEE JOURNAL an excellent companion and adviser."—L. M. Wainwright, Noblesville, Ind.

"I consider the BEE JOURNAL the best bee publication—having read them all."—J. E. Hunter, Jones Co., Iowa.

"I do not see how any one can be successful in bee-culture without the BEE JOURNAL."—D. K. Knoll, Boundary City, Ind.

"I prize it highly. Should it fail to come at the proper time, I feel as though a dear friend was absent."—G. W. Jenkins, Owen, Ky.

"I would not do without the BEE JOURNAL. I shall get up a club for it, and wish it success."—E. J. Rockefeller, Farragat, Iowa.

"The BEE JOURNAL grows better and better every month. No bee-man can afford to be without it."—John Barfoot, New Canton, Ill.

"I could not consent to do without the BEE JOURNAL. It is so valuable to me that I long for its arrival."—R. D. Utiger, Alhambra, Ill.

"I do not see how any one can do without the BEE JOURNAL. I have been handling bees for 40 years."—A. M. Barnett, Valley Mills, Texas.

"I like the BEE JOURNAL much, and the better I become acquainted with its management, the more I prize it."—O. Courtney, Marathon, N. Y.

"The JOURNAL surpasses itself; each issue is an improvement upon the last, in the bright, cheerful appearance and instructive influence of its whole composition."—W. Williamson, Lexington, Ky.

"I have learned more from the BEE JOURNAL, of how to handle bees, than from all other sources, and wish it every success."—R. Corbett, Malden, Ill.

"I have read many papers, but place the BEE JOURNAL ahead. I wish it could reach every energetic bee-keeper in the land."—W. L. Boyer, Ashmore, Ill.

"I am much pleased with the AMERICAN BEE JOURNAL. It is the largest and best bee paper published in the World."—D. L. Franklin, Boone, Co., N. Y.

"The July No. of the BEE JOURNAL is replete with instructive articles; of itself it is worth to a bee-man a year's subscription."—M. S. Baker, Santa Monica, Cal.

"All progressive bee-keepers should take the AMERICAN BEE JOURNAL; read it and grow wise; they will never regret it."—G. A. Walrath, West Bay City, Mich.

"I don't see how any one who handles bees can do without the BEE JOURNAL. It is the best paper I ever read, and I have read many."—S. M. Oldham, Reynoldsburg, O.

"My bees came through the winter in splendid order—no loss whatever—thanks to instructions in the 'old reliable' BEE JOURNAL."—D. I. Beecher, White Co., Ark.

"If you keep on improving the BEE JOURNAL as you have within the past year, it must become the *ne plus ultra* of bee literature, the World over."—O. W. Spear, Easton, Pa.

"The BEE JOURNAL comes loaded with good things. I can't see how it is possible to make it so much better every month. It is always a welcome visitor."—Thomas J. Ward, St. Mary's, Ind.

"I hail the coming of the BEE JOURNAL with joy. It is the greatest light we have on bee culture, bringing ideas, not only from the editor but from all the other experienced bee men of the land."—L. A. Taber, Holyoke, Mass.

"The AMERICAN BEE JOURNAL has saved me in clean money \$56.25 in the matter of hives alone in two years, to say nothing of the other information I have gained from it. Those who do not take it, stand in their own light."—R. Matthews, Pontiac, Ill.

"I am among the many who are glad that the AMERICAN BEE JOURNAL fell into the hands of those who have no hobbies to ride or axes to grind—to make money by—well, stealing others' inventions, without giving credit to whom it is due. I only express the views of its many readers."—F. A. Snell, Milledgeville, Ill.

"The BEE JOURNAL is pre-eminently above all its competitors. It is full of fire, enterprise and vim; it discusses the various questions pertaining to bee-culture with spirit and energetic thought; it is an honor to its Editor and to the interest which sustains it. It has no individual axe to grind, but it is the fearless champion of all that is useful and good; steadfast, unwavering, honest; never vacillating or swerving, but true as the needle to the pole to the interest of bee-keepers. It should be taken and supported by every one interested in bees or honey."—American Grocer.



Book Review.

BEE-CULTURE ; OR SUCCESSFUL MANAGEMENT OF THE APIARY, by Thomas G. Newman, editor of the American Bee Journal.

In this little hand-book of 80 pages, Mr. Newman has given us a short, clear statement of the science of bee-keeping by modern methods. The first 24 pages are devoted to "The Natural History of the Honey Bee," and give, in language as free as possible from technical, scientific terms, a popular statement of what is known about the bee. As successful bee-keeping depends so largely upon a knowledge of the nature and habits of the bee, this chapter will be found one of the most valuable in the book. I have seen an objection urged against Prof. Cook's "Manual," because it devotes so large a space to a presentation of the natural history of the bee. Surely such objection was not well considered. A man who is ignorant of the natural history of the bee may, for a time, succeed in bee-keeping by slavishly following the directions of another, or by a run of what is called "good luck," but emergencies will arise to which his rules do not apply, and in which his boasted "luck" will fail. He loses his bees, and retires from bee-keeping in disgust. The man who has a fair knowledge of the nature of the bee can meet such emergencies by methods of work rationally based upon such knowledge, and he will in the long run succeed. All wise friends of bee-keeping will strive to diffuse correct knowledge of the bee.

Next, in a chapter of 10 pages, Mr. Newman considers the "Establishment of an Apiary," treating briefly all the topics from "Situation and Stocking" through to "Honey Bloom." His statements here are based upon the experience of our most successful bee-keepers. The beginner will find every paragraph full of sound advice.

A chapter on "Hives and Surplus Honey Receptacles" follows. Mr. Newman is an ardent disciple of the Langstroth hive, and of the "prize" honey section and the "prize" shipping crate. Certainly the prize section and prize crate are most excellent. As to comb honey they leave little to be desired, especially if Mr. Moore's paste-board caps shall prove practical and economical. There is no doubt, either, that the "Langstroth" frame is a good one, but some of us who acheive with the "Gallup" frame just as good results, to say the least, and who claim

some strong points in its favor when it comes to practical work, are not able to see the probability that the Langstroth frame "will ere long supplant all others" quite so clearly as Mr. Newman sees it. Hence we make a gentle protest against the positiveness of his statement. Probably those who use the "Quinby" and "American" frames would have, also, a word to say. After all, it is true, however, that the larger number of beginners in bee-keeping need positive directions. They are bewildered and disheartened by distracting statements as to the merits and demerits of different frames. It is best, perhaps, to tell them to adopt a particular frame, for, as Mr. Newman says in this chapter, "proper management of the bees has much more to do with good results than any form of hive or size of frame." What is said in this chapter about the importance of securing surplus comb honey in attractive shape, assorting it, grading it, and putting it in market in beautiful condition, cannot be too strongly commended. A large part of the comb honey comes to market now, especially in the villages and smaller cities, in very slovenly condition. Such honey is a positive damage to every producer in the vicinity.

The next chapter is given to the "Honey Extractor and its Use." The author does not advocate the exclusive production either of comb or extracted honey. In this he is undoubtedly wise. Honey is good in both forms, and will be in demand in both forms. The beauty and excellence of comb honey make it so desirable that it can never be supplanted. On the other hand the cheapness and excellence of extracted honey will constantly increase the demand for it. Thoughtful producers will labor to increase the demand for both, and will produce whichever in their locations is most profitable.

In the chapter on "Comb Foundation and its Use," there is a good statement about this new help in bee-keeping which has so rapidly come into wide popularity. Then, there is a chapter on "Italianizing," "Dividing" and "Swarming," and finally one on "Managing and Quieting Bees," both of which are full of practical directions. The little book is amply illustrated. Its table of contents and index enables one to find readily any topic desired. The paper is good, and the print is clear.

Unfortunately, the proof-reader did not always have his eyes about him. That he should have allowed "ceiled" cell to stand

for "sealed" cell is unaccountable. Mr. Newman says in his preface, that his pamphlet is designed to "supply a *cheap* work for the beginner." As such, therefore, it should be judged; and as such, it seems to me to be very good indeed. O. CLUTE.

Iowa City, Iowa, Oct. 21, 1878.

[A few errors in the first edition, now nearly exhausted, will be corrected in the next edition of the work.—ED.]

Foreign Notes.

Translated from *L'Apiculteur Alsacien-Lorrain*,
BY FRANK BENTON.

Comb Foundation—No. 2.

Not rejecting wholly the view taken by some, namely: "That colonies provided with combs exhibit less activity than those that have to build them, and that thus there is a compensation for the work of the latter," we would ask: Do we not with comb foundation leave something for the bees to build?

Suspend your sheet of wax in a vigorous colony between two finished combs, and, if the flowers are yielding, and the young queen is laying rapidly, four days will suffice to have the cells nearly completed and to enable you to see a little honey, and, even more, many eggs. I have often noticed that the queen will take possession of cells the walls of which are scarcely built out. But with comb foundation the work goes on over a large surface at once, hence the laying can be conducted with a degree of rapidity that is impossible under ordinary circumstances. From this comes, 1st, an increase in the population of the hive, and, 2d, as a result, an increase of the products, because the quantity produced depends more or less on the strength of the colony.

"This is all very well," you say to me, "I admit the acceleration of the growth of a colony with a young queen, by means of your foundation; but you have said considerable about the loss which you sustain when the bees are kept secreting wax. Now I do not see that comb foundation is such a great saving, for, in order to complete the work it is necessary to have material for the walls of the cells."

Do not be deceived, the material is in part before you. When the work of building out comb foundation commences, our intelligent insects hollow out the base of the cells, that is, they gnaw the wax from the bottoms of the impressions. Observe that they follow closely the angles marked out, and which are for them real guides. The gnawings of the wax are not thrown away; our insects are too economical to waste even the least particle. What they remove with their jaws is at once worked over and fastened upon the edges of the cellular base. As the cells lengthen out they preserve the yellow tint of the comb. It

even happens often that the cells are built out half way before the white wax—the real work of the bees, becomes apparent. Thus, the less wax to secrete the less honey consumed. And how much time does this work of building out consume? You will agree with me that the brick maker who finds the clay at hand, will make, in less time, a given quantity of brick, than one who must first search for his material two or three kilometres from his kiln. Thus with our bees. Either the same number of workers is engaged in the labor—then the work advances more rapidly; or there are fewer—which is always the case, and then the excess of workers fly to the fields and return laden with stores. The latter to the apiarist, since wax is not to be procured.

As to the finishing out of the cells—the latter half, (or sometimes a little more, according to the fineness of the sheet), the usual method is employed by the bees. But since half is gained, are we not better off than if all must be built? Our account is even better than this, for the full weight of our comb foundation is used in the construction of the comb. We only have to change one sum—the price of wax. A kilogram (about $2\frac{1}{4}$ lbs.) of foundation made by Schulz, comes to 8 francs 50 centimes (\$1.53); the honey saved by the use of this kilogram being valued at 20 francs (\$3.72), we still make a profit of 11 francs 50 centimes (\$2.14). Let us, in order that we may not be accused of inaccuracy, make this 1 kilogram less, the quantity of honey which might be collected by the bees detained in the hive to pare down the foundation and build out the first half of the cells; there remains the sum of 9 francs 50 centimes (\$1.77). You are not a millionaire, my friend, any more than I am; do not scorn this sum.

Still a stronger word in reference to this discussion of the subject of compensation. If those who invented comb foundation imagine themselves right in supplying it to colonies not having to produce more wax, you see that with it they are pursuing a faulty course, for these same persons claim that it is too thick and that it requires much labor on the part of the bees to get it pared down. Therefore be consistent, gentlemen, and admit, as every one else does, 1st, that comb foundation is not a complete comb, and, consequently, that, if it is necessary to have new wax to complete it, there is no reason for the bees becoming sluggish on account of the indulgence. 2d, that the completion of these foundations occupies fewer workers than would be required in the complete production of as many combs, since half of the material is given to the bees by the bee-keeper. I repeat that the use of comb foundation is the only way of succeeding rapidly in only having strong colonies, and what is certain should not be ignored.

In a future letter we will examine more thoroughly this important point—more important even than that which we have just discussed, for they have been trying to find how to substitute workers for drones, and finally have invented this comb foundation which I recommend to you. I have begun, my friend, with secondary considerations,



as you began, in your excellent cellars, by offering us wine of the second quality, so as to pass afterward to the better sorts,—a way permit me to say, which connoisseurs in wines have, but of which no one ever complains. From this, *fac ut bene valeas*.
Liepore, May, 1878. DR. REISSER.

Foreign Items,

GLEANED BY FRANK BENTON.

"Ein Vorspiel im November nur :
Das Volk bleibt meistens frei von Ruhr."

This proverb among German bee-keepers would read in English as follows: "A flight in November only, and the colony remains quite free from dysentery."

FROM Luneburg, Hanover, news comes that the fall weather has been very pleasant and favorable for the securing of the crops, which this year are excellent. The bee-keepers, especially, have been favored with a good harvest, the first "honey year," it is said, since 1850.

THE luxuriance and beauty of the vegetation on the Island of Java, particularly of the flower-producing plants, are said to be wonderful. The island is described as being "the most fruitful island in the world, an Eldorado, a paradise." To Herrn. Rudolf Mayerhoeffer, the active and worthy editor of "*Der Bienenwater*," Prague, belongs the whole credit of having suggested and even urged upon the Dutch government the importation of European bees. Several colonies were safely landed on the island last year, and a new source of wealth to the government has been opened. It seems that in the manufacture of their clothing the inhabitants use much wax, and, thus far, have been obliged to import all of it; now, however, Java has the prospect of being able to export wax ere long. Herr Mayerhoeffer's service in this matter certainly deserves a high reward.

THE Egyptians exhibit great skill in their manner of cultivating the bee. The flowers and the harvest are much earlier in Upper Egypt than in Lower, and the inhabitants profit by this circumstance in regard to their bees. They collect the hives of different villages on large barges, and every proprietor attaches a particular mark to his hives; when the boat is loaded, the conductors descend the river slowly, stopping at all places where they can find pasturage for the bees. After having thus spent three months on the

Nile, the hives are returned to the proprietor, and after deducting a small sum due to the boatman for having conducted his hives from one end of Egypt to the other, he finds himself suddenly enriched with a quantity of honey and wax, which is immediately sent to the market. This species of industry procures for the Egyptians an abundance of wax and honey, and enables them to export a considerable quantity to foreign countries."

In the *Bienen-Zuechter* for November, under the heading "Postscript," the following appears in large type:

"THE LATEST DISCOVERY.—Artificial capping of honey-combs. Hot, liquid wax is blown upon the open honey-combs by means of the *refraicheur*. The discoverer is Pastor Knoblauch, of Roloffshogen, Pomerania."

Perhaps hereafter one can seal up any honey left in open cells by the bees or fed late in the season!

Mating in Confinement.

By F. J. Grohman, Schoolmaster at Wolfsberg, near Rumburg, Bohemia; Translated by R. Mayerhoeffer:

When the bee-keeper has queens just hatched in a queen-nursery, (the latter is indispensable in securing the mating with selected drones, i.e., in confinement), two things in reference to the rearing-hive must be arranged: First. The queen-nursery is to be fixed in the interior of the hive under the aperture. (The author means here a hole in the top covered with wire-cloth or perforated tin.) Second. We must prepare a roomy frame-work or case, the sides and top of which are glass, and the bottom wood. Through the latter a hole is made, to correspond with the aperture in the top of the hive, and the frame-work or case is then fitted on the hive. The passage connecting the two must be provided with a slide so it can be opened or closed from the exterior. When this case is closely fitted to the hive on all sides we can proceed with the operation.

One of the first hatched queens is removed from the queen-nursery and placed between the wire-cloth or perforated tin which closes the aperture in the top of the hive, and the slide of the glass case which has been placed above. The bees below will feed her through the wire-cloth or perforated tin, so she can remain there till time for her to mate. When the weather is favorable one or two active drones of the desired stock are placed in the glass case; the slide is opened, and the queen, never having known a larger space than her prison, is quickly attracted by the fluttering of the drones and the streaming in of the light, to fly up and mate, whereupon she is removed and her place supplied by another. No more certain method exist.

Notes and Queries.

Huntsville, Ala., Oct. 9, 1878.

Enclosed find a few blossoms and piece of the stem of a weed that grows in great abundance in the fields and waste places here. It grows from one to four feet high; commences to bloom Oct. 1st, and is giving our bees quite a lift; stands the drouth well; is called by some wire-weed, and for aught I know is a valuable honey plant. Please give proper name.

JOHN R. LEE.

[These are asters. See description in Nov. No. of BEE JOURNAL, page 373.—A. J. C.]

Grantville, Ga., Oct. 31, 1878.

I send a specimen of a plant that bees work well on and gather considerable honey from. It grows from 6 to 12 feet high, branches from the ground up, and blooms on every branch. Bees are now at work on it. What is the name, and its value as a honey plant?

L. B. WATKINS.

Prof. W. J. Beal, of the Michigan Agricultural College, answers as follows: *Leonotis nepetifolia* (Lion's-ears). This is an annual which belongs to the mint family, and like most or all of the family, is good for bees. Famous bee-plants of this family are basil, lavender, germander, lycopus, horse-balm, hyssops, majoram, thyme, sage, catnip, dragon-head, blue-curly, scull-cap, &c. These are all general names and are most of them applied to numerous species, and often several genera of this large family.

Orange County, Fla., Oct. 22, 1878.

Can you tell me why bees will not build comb in this climate in summer? In May I was speaking of getting some bees, and some one present said if I wanted to transfer them I had no time to lose, as it was about time for them to stop making wax; that they could not make wax after the middle of June, until late in the fall. But as he could not give any reason, I thought he did not know anything about it, so went ahead and got my bees, put them in Langstroth hives on May 21st, and gave them foundation to work on. For about three weeks they went at it with a rush, and then they stopped. On some of the foundation they had just begun work. From that time until about the first of September, not one cell was built. Since then they have been doing a little, but not working as they did at first. The comb which they had built was all the time full of brood in all stages; and they carried in pollen freely, but very little honey. There are only two others near here who use the movable frames, and they tell me their bees have done the same way. I saw a large colony put into an empty box hive about the 10th of June. One day in September I was passing the place and was asked to stop and look at the bees. I turned

the box down, and found they had not built a piece of comb as large as your hand, and the colony had dwindled to a mere handful. I fed one of my colonies for some time, thinking I could get them started building comb, when they found they were getting more than they needed for food, or could store in the comb already built. They would use all I gave them, but no new comb could I get. Where they put it I can't say. There are very few days here in winter, when the sun shines, that it is not warm enough for bees to fly. I have some cane to grind and syrup to make. How can I manage not to kill my bees? I have neither much cane nor many bees this winter, but by next winter I want a good lot of both.

A gentleman living some distance from here, who has no bees on his place, told me he did not think he would exaggerate in saying he killed a peck of bees each day last winter while he was making syrup. If that is so, I will soon grind up all of mine, and my neighbors', too. If you can suggest some plan whereby I can prevent such a catastrophe, I will be much obliged.

N. J. BAYARD, JR.

[I think the case of Mr. Bayard is only to be explained by some abnormal condition of the colony. To be sure, bees, if kept for a series of years in a country where there are no need of winter stores, might cease to make provision for an interval of idleness and rest; but change of habit like this would require long years. Again, in Florida, as elsewhere, there is not a continuous flow of nectar, and there, as elsewhere, bees must provide stores. In California and other of our Southern States, there is an equally high temperature, and yet, we have not heard of such a refusal to build comb. I can but think that some evil had befallen the bees in question. In one case mentioned it was very likely the loss of queen, and the bees were too discouraged to continue their activity.]

We have taken all combs away from our bees, at various seasons, even when it was too cold for the bees to fly, and yet they would build comb in every instance, though shut up in their hives, and fed wholly on melted sugar.

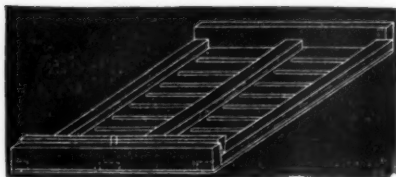
In regard to the cane grinding, I see no way to remedy the evil, except to shut up the bees, or else to do the grinding in a building closed against the admission of bees. If the bees were shut up, they might be buried or put into a dark cellar, to keep them quiet. In well ventilated hives, I should suppose they would bear confinement on their stores for two or three weeks, without injury. Perhaps the ground cane and syrup could be covered with gauze, so as to exclude the bees.—A. J. C.]

Carroll Co., Miss., Oct. 4, 1878.
 "Can you tell me of a good plan to catch millers?"
 A. C. WILLERS.

[A strong colony of Italians is the best remedy against them. A good plan to catch the millers is to place a candle or lamp in a vessel of vinegar and water, after dark. Drawn by the light, they will perish by scores.—ED.]

—
 LeClair, Iowa, Oct. 21, 1878.

Enclosed find drawing of comb honey rack to hold prize honey boxes, which I have been trying to improve. It is the same as that advertised, with this addition: Instead of metal rabbets, use thin wood about $\frac{1}{8}$ inch thick. Cut slots, as per drawing, to correspond with the sections used. Its only advantage is in keeping the boxes clean and prevent their sticking to the brood frames. The drawing is calculated for the



Gallup hive. It rests on the outer walls of the hive. In putting this light stuff on, I use tin strips, clout nails, which makes it substantial. Please give us your objection if any.
 T. J. DODDS.

[The idea of Mr. Dodds is well enough; but there was no wedge to keep the boxes together—this we have added to the cut, and with that addition and the use of boxes with tight top bars, to keep the bees in, the rack will work well. The only difference between it and the one used on the Langstroth hive, being the wood bottom to keep the bottoms of the boxes clean.—ED.]

—
 Toledo, O., Oct. 30, 1878.

I wish to inquire if the flowers of the plants "pyrethrum roseum" and "pyrethrum carneum," secrete honey and pollen in sufficient quantity to attract the honey bee? If so, would it not be injurious to them, especially the pollen? as I understand the article on the market known as "Persian Insect Powder" is composed of the dried and pulverized flowers of the above plants. Also if the plant is indigenous to our section of the country. If you find the above suggestions worthy of investigation, should be pleased to hear the result through the BEE JOURNAL.

JOHN Y. DETWILER.

[Pyrethrum is another name for our chrysanthemum, which includes the noxious ox-eye daisy, the feverfews and the culti-

vated chrysanthemums. Our beautiful cultivated species have become so double, that I presume they yield but little, if any, honey or pollen. I have never noticed bees on either of these. The plants are near congeners of the asters, etc., which are among our best autumn honey plants. So we might well believe that the single flowers would yield nectar. I think I have seen bees on ox-eye daisy. Because the dried pulverized flower heads of the *C. roseum* form an insecticide, is no proof, that the honey or pollen from the plants would be unwholesome to the bees. I should have no fears that it would be. The *C. roseum* is introduced from Persia.—A. J. C.]

—
 Laceyville, O., Sept. 21, 1878.

MR. EDITOR: I have been a little puzzled to know how bees marked their location so accurately. Will you please inform the readers of the BEE JOURNAL?

JOHN W. WATERHOUSE.

[This is done through the sense of sight. A large percentage of the bees that fly out in the early spring are those that have come into being during the winter and early spring; consequently they do not leave the hive in a straight line, but only go a few inches, then turn their heads towards the hive and oscillate back and forth in front of it; then moving further back, still hovering in front of the hive, with their heads towards the entrance, occasionally advancing towards it, as if to note more particularly the place of entrance and its immediate surroundings, they then increase the distance, taking a survey of buildings, trees, fences, or other noticeable objects near by, after which they return to the hive, and start in a direct line from it. On returning they come directly to the hive and enter; the surrounding objects and the color of the hive are all noted by the bees.—ED.]

—
 Nelson, Ky., Oct. 10, 1878.

1. How can I manage to secure in my frames, straight combs?
2. What hive will give me the largest yield of honey?

E. JONES.

[1. Straight combs may be secured by the use of comb foundation. That with wire incorporated into it, we think will be the most serviceable as it will not sag in warm weather.

2. Large yields of honey are obtained, not by the use of any particular form of hive, but by scientific management of the apiary.—ED.]

Correspondence.

For the American Bee Journal.

How to Establish a Honey Market.

Much has been written and said in regard to the marketing of honey; how it should be put up for market; how we were to create a demand at home for it, &c. But it looks to me that those who produce honey by the ton most need, is an established market for their honey, at an established price. At present there is no particular price for honey. We pick up a New York paper and eagerly glance over the market reports for honey, but often lay it down in disgust as we find honey is not quoted at all. We try again, and this time we find honey quoted at from 15 to 17 cents, for best white. We take up another, the New York *Atlas* for instance, and find honey there quoted at 20 to 22 cents, showing to us conclusively that honey of the same grade is selling at random, so to speak. Nor need we go to the outside press to find that honey has no established price, for in our bee periodicals we find one quoting honey at from 17 to 20 cents; and another at 15 to 17 cents. This is not so with farm produce, and other articles of merchandise. If we have a load of wheat to sell, or a few tubs of butter, we can find just what it is worth in New York, and can take it to any place near home, where they deal in these commodities, and get what it is worth in New York, less the freight and a light commission for handling. If we go to these same places with our honey they say: "What do you expect to do with that stuff?" We say, sell it. We are asked what we want for it? Why the market price, of course. The answer is, "We know no established price for honey. We buy pork, eggs, butter, oats, corn, &c., that have a fixed value in them, but honey we don't want. You had better ship it to some house in New York, Boston, or Philadelphia, to be sold on commission, or sell it at home and take what you can get for it." And this is about what most of us do. A few, however, will say, "I have got but a few hundred pounds; I will go to our city (which has from 15,000 to 50,000 inhabitants, as the case may be), and see what I can get for it." They go, stop at a place where they deal in country produce, and ask the price of honey, with the answer, "We have plenty; we do not wish any." "But what is nice honey, in 2 lb. boxes, worth?" "Oh, from 11 to 14 cents; anywhere along there." A sample is shown, which perhaps is looked at, with the remark, "Yes; that is nice; but we do not wish any." Perhaps our friend has some butter to sell, so he asks, "What is butter worth?" The dealer says: "If you have butter to sell we want it; we are paying 18 cents for butter, and if it is the real gilt-edge, perhaps we could give you 18½."

He passes to the next place, shows his sample, and asks what they are paying for honey. "If it is all as nice as that, we will pay you 10½ cents for it." "What is butter worth?" "Eighteen cents, sharp."

And so he goes all over the city to find a uniform price of butter, and possibly gets an offer of 13½ cents for his honey, or a part of it, comes home, and concludes to ship it on commission to some house in New York, and run the risk of getting honest returns, or having it smashed on the cars; for even Thurber & Co. will not buy honey this season.

Now, what we want is a fixed price for our honey, as there is for other produce. A correspondent writes thus: "I shipped my honey to —, New York, but have no returns from it as yet. I think the honey market is the vital question for bee-keepers at present. We could get the honey if we were sure of a ready sale for cash. What we want is an established market like the butter market, so we can sell our honey any day for cash, at some price according to quality. Can this be accomplished in our day?"

I confess that I do not feel competent to point out a way whereby we can secure an established market for our honey, thereby making it a staple article, but bring the subject before the readers of the *AMERICAN BEE JOURNAL*, thinking that perhaps by united action it may be accomplished. Could it not be brought about through our National Convention, by appointing a member in or near each city to get all dealers in said city to keep honey at a uniform price, and have that price uniform throughout the United States? G. M. DOOLITTLE.

Borodino, N. Y., Nov. 13, 1878.

[This is a vital point. We started the season's prices—buying at 18 cents, selling to retailers at 20, and they retailing at 25 cents. Soon we found some producer had come to the city, and within a block of our office had left his honey for sale at retail for 15 cents. This was followed by others, and the result is that it has been a loss of thousands of dollars to honey producers. United effort only can grapple with this very disagreeable business.—Ed.]

For the American Bee Journal.

Apis Dorsata.

For many years I have taken a deep interest in plans for the introduction of this variety of bees into America. The late Mr. Woodbury, of Exeter, England, and myself, were in correspondence upon this subject. Learning from me the steps I proposed to take for securing it, he requested as a favor that I should wait until the results of his efforts could be seen; offering in the most generous manner to give me the benefit of all his knowledge and facilities, if I thought best not to postpone my efforts. As he was the first to plan for its importation from its native habitation, and as my knowledge of it came mainly from his writings, I felt that it was due to him that I should comply with his request.

His death, so sudden and unexpected, was a great loss to the bee-keeping world; and I have never been able to carry out any



plans for introducing *Apis Dorsata* to this country. Just when apiarians were hoping to see the work accomplished by such men as Dr. E. Paruly and others, the whole thing seems to have been abandoned, and the stamp of worthlessness to have been put upon *Apis Dorsata* itself.

Writing this article away from my library, I am not as sure as I could wish to be of some of my statements; but am almost certain that Mr. Woodbury, either in a private letter to me, or in some communication, says that he has seen the comb of this bee, and that while the cells are deeper than those of the black or Italian varieties, they have about the same diameter! If this is so, it is evident that our bees could utilize their combs, by piecing out the cells, so that the possession of a single queen might give us the means of propagating the race.

That this bee does not confine itself to building upon trees, is certain from this fact given to me by Mr. Woodbury: At Galle, on the Island of Ceylon, from which the English steamers start on their voyage to the Isthmus of Suez, a colony of *Dorsata* (as he was informed) had established itself in one of the sheds of the steamship company!

My plan for testing and securing it would be substantially this: Send to Ceylon a thoroughly reliable and energetic bee-keeper. He should learn at what season the propagation of these bees might be most safely undertaken; should have all needed hives and other appliances made here, and carefully packed so as to occupy the smallest space, and be put together when he reaches his place of destination. He should take with him some colonies of Italian bees, well prepared for a long journey—obtaining them as near to the Isthmus as possible, in order to make their transport the safer.

On his arrival at the port on the Red Sea (Aden) where the steamers sail for Galle, he should lay over, one steamer, to give them a purifying flight, thus preparing them for the long sea voyage. Arriving at Galle, he should carry them to some place where *Dorsata* was in full work, honey gathering, swarming, &c. Here he could easily learn whether this variety could be domesticated, and if so, he could breed his queens on the spot. If he found it incapable of domestication, or for any reason not a desirable bee, he could ascertain if a cross between it and the Italian race, might not prove to be the long-desired coming bee. I need not enlarge. In 1859, Mr. A. J. Bigelow, at my suggestion, stopped over, one steamer, at Panama, and thus made the most successful importation that was ever made, of black bees into California. Adopting the same plan, he carried 113 small colonies of Italian bees, the next season, to San Francisco, his bees arriving in admirable condition, only two or three queens having died on the passage, and the colonies having as many bees as when they left New York. With such an expert as Bigelow, *Dorsata*, if capable of domestication, or any other variety of bee, might be brought here from almost any part of the globe.

Gerstaker seems first to have suggested the value of *Dorsata*, thinking that from the size of its proboscis and power of flight,

it might prove to be a better bee than any now in Europe. The manner in which the natives secure its comb, as described by Mr. Wallace, demonstrates that it can be controlled by man, by the use of smoke.

Will our American bee-keepers raise a fund and obtain the services of some bee-keeper, not too old, strong, wise and of indomitable energy, to test this matter?

If our different missionary societies would, through their missionaries in India, China and other parts of the world, as they so easily might, send specimens of worker-bees, preserved in alcohol, to A. J. Cook, Professor of Entomology in the Agricultural College at Lansing, Michigan, much might be done to advance the cause of practical apiculture. His full and accurate knowledge of bees, and his great skill as an entomologist, would enable him to examine thoroughly the length of proboscis, wing power, capacity of honey-sac, &c., of those bees, and thus to direct us where to get the variety which by proper crosses would improve our present bees. Instead of so much theory and talk, let us get to practical work. With a mere pittance of the sums which have been spent in improving our domestic animals, we can do more in months for settling these questions, than the breeders of short horns, merinos, Alderneys, &c., have been able to effect in as many years. We want the best race of bees, or the best cross in the world.

L. L. LANGSTROTH.
Oxford, Butler Co., O., Nov., 1878.

For the American Bee Journal. Chips from Sweet Home.

CHAFF.

In the Oct. No., page 347, of AMERICAN BEE JOURNAL, surely "chaff" was given by A. W. Foreman. The thousands of readers of the AMERICAN BEE JOURNAL did not get one valuable idea by which they could get one ounce more of honey or handle bees in less time, by reading that article.

A. W. F. says: "The note Mr. Palmer received from the publishers, confessed their ignorance." Is it wrong to confess ignorance by asking for information? Many times neighbor Scudder and I, as we have done to-day and hundreds of times before, learn of each other.

Again, A. W. F. says: "Because of this confession, it logically follows, that the balance of the book is equally worthless, which I believe has long been well known by scholars."

Which you believe? Then you have only hearsay or some unreliable source, and confess your ignorance in regard to the book, instead of being published, as you intimate, by saying "has long been well known," it is a recent work, and in fact is yet being published in parts in order to keep up to the times.

When a bee loses its sting it is sure to "die in a short time." How long is a short time? We say of the worker bee, that it lives but a short time; but does a bee die in consequence of losing its sting? How long does it live after los-

ing its weapon of defense? When persons are visiting our apiary and one of them is stung, or a bee loses its sting by any means, then you will hear it said: "That bee will soon die." But how soon? We don't know, neither does A. W. F., unless he gets his foot on it.

Many times we have bees about us while at work in the shop, apparently wishing to sting and some even do try it; but upon examination we find they are minus a sting; we have also caught them in the house, etc.

It has long been a mistaken idea that the queen rules; that she leads out a swarm; that she causes them to swarm; that there would be no swarming unless she wished; by her directions queen cells are built, etc. On the contrary, we find it is the bees that rule the queen; true they love and respect her, but only as a mother, and only when she acts as mothers do, they respect her as such by feeding and giving her room, allowing her to pass where she wishes; when she ceases to lay eggs, or but few, she gets her food out of the cells and crowds her way among the bees the same as a worker.

Will A. W. F. help me to examine a few hives? See those queen cells with holes in their sides? The queen did that and killed the young queens. Why? Because she did not wish to leave the hive, and there she is to-day.

We open another. Hear that piping of queens? Hold that comb; there is the old queen. Do you see that pile of bees in the center of it? We brush them away and see what is in there; they stick and hang. There, now you can see. See what? Only one bee and she has her head in a queen cell. Pull her out and see that young queen. She came out of that queen cell. The bees were determined to swarm, and the old queen did not wish so to do. See the bees pushing the old queen back; now she goes on another part of the comb where bees are not so plenty and tries to pass. What for? Because she wishes to kill that rival; knowing that unless she does kill her, she will have to leave the hive. The bees rule, though the queen does not wish to swarm.

Since reading the A. W. F.'s article I have found several who have seen the bees pull, drag and crowd the queen out of the hive, and many times she is liberated only to return to the hive to be again forced out by the bees. In some cases they kill her, then in a day or two, take a young queen with them; sometimes the queen appears (from outside viewing) to come out of her own free will. But to find how much forcing was used, it is necessary to examine the interior, as we did in those two hives.

And now for No. 3. "The queen is never accompanied by a guard of 12 workers, neither more nor less (i. e. by any certain number), but a part of the time she is accompanied by workers, which caress and feed her just in proportion to the number of eggs laid."

That which I enclose in the above explains itself. A. W. F. asks: "How did you obtain the fact of this proportion, Bro. D. D.?"

We answer: For many years we kept an observing hive (one comb with glass on each side) and by careful experimenting and

watching at all hours of the day and night, and all seasons; we obtained the above fact and many others. "Go thou and do likewise."

STATISTICAL TABLE.

In the JOURNAL for Oct. is a table of the product of 200 apiaries, in answer to a call viz: "How many pounds of comb honey, extracted, also wax have you produced thus far this season?" I was at a loss as were many others to know what was desired from the above question. Some thought, the amount already taken off the hives, others the amount off and on the hives; and others the amount that we expected or had for the whole season. The question being indefinite, the answers were likewise indefinite. One of my neighbors reported 2,600 lbs. now off, his amount is over 7,000 lbs. Friend Newman, have you not done us an injustice in reporting thusly. "This gives an average of only 32 lbs. per colony, showing it to have been on the whole an exceedingly poor year." This has been a poor season with us. We had a month of fine weather in spring which set a large amount of brood rearing. During this month all looked prosperous, a large amount of brood and plenty of honey; following this was a month of cold weather, during which this brood had to be fed and consumed in many instances every drop of honey and nary a hive any to spare; white clover was abundant but nights were cool, basswood failed and then extremely hot and dry until about Sept. 18, and during fall cool nights, (warm nights for flowers to secrete honey). Last year we had from 150 colonies 15,000 lbs. this season from 200 we will have about 11,000 lbs.

OUR CONVENTION AT NEW BOSTON,

Oct. 2, was a success, we had the best display of honey and aparian supplies ever shown at any of our conventions. About 600 lbs. of honey being exhibited, 400 lbs. being from Sweet Home Apiary. The different articles of exhibit are too numerous for me to mention, and it is hoped our Secretary, who was sick during most of the season, will give a minute detail of each. Prominent among other exhibits were the articles of T. G. Newman & Son. The wax and honey extractors showed for themselves, but the fine amount of books, papers, honey knives, smokers, etc., was shown by our Secretary in a manner becoming any news depot. And what surprises me most is to know of men who keep bees from 200 colonies down, within a few miles of our convention, to either not attend, or if there, to not buy a bee book or paper, nor take no interest, not even to join. I will have to make one exception, being a man who 10 years ago was well posted on bees but since then has not taken bee publications nor attended conventions till this. He was not aware how much he had fallen behind, and bored the first speakers with questions till they were tired, and he had to be called to order by the chair, this too without becoming a member or subscribing for a bee paper. One of this class of men who a few years ago told me it was useless for him to take a bee paper, or buy bee books, because he knew as much as they, sells his honey



each year for much less per pound, because he is not posted. Such are the men who glut our market with honey, put up in inferior order, selling for what they are offered or can get, keeping the price of honey down.

We have just made 9 gallons crab apple jelly with honey, as directed in your work on "Honey as Food and Medicine," and find it equally as good as that made with sugar, and lighter in color. The honey flavor would be desired by those who like that flavor. We exhibited a sample of each at our Convention, and all thought the honey jelly best.

HOW TO GET BEES OUT OF A HONEY HOUSE

and not let any in. This we have long wished for: a window or door that will ventilate the room, allow light to enter, allow no bees to come in, but without our assistance will pass all out that may follow us in, or that may be on the honey which we bring in. Take out your sash of glass, and put wire screen on the casing outside, nail fast at bottom and sides, at top leave an opening of $\frac{1}{4}$ or $\frac{3}{8}$ inch, by placing in strips of that thickness every 6 inches, through which to nail; have your wire cloth extend above the window about 12 inches, and secured against the building the same as top of window. Bees from inside will light against the screen of wire cloth, and immediately climb up, up and up (as it is the same light to them from without), and they are free. But those bees which wish to gain admittance will not try to find an opening against the building, where they can neither see through nor even get a smell, but will try to gain admittance at the window. The door may be made by making a frame of 3 inches wide, bottom and sides, top piece 12 inches wide, on this tack wire cloth within 1 inch of top of door. Try it and improve upon it, and let us know through the AMERICAN BEE JOURNAL the result.

New Boston, Ill.

D. D. PALMER.

[It seems to us the questions were exceedingly plain—thus: "Number of pounds of comb honey produced thus far this season." Some few estimated to the end of the season, and those amounts were marked with a * and it was so stated in a foot note. The average of 32 lbs. for "thus far, this season" is small when it is taken into account that the reports are those of scientific bee-keepers. Had it been a promiscuous table, it would have been an exceedingly good showing. Friend Palmer seems to agree pretty well with us for he says: "This has been a poor season with us"—wherein then did we do an injustice?—ED.]

The Annual Convention of the Northwestern Illinois Bee-keepers' Association will be held at Shirland, Winnebago County, on Dec. 17, 1878. JAS. E. FEHR, Sec.

For the American Bee Journal.

How I Tamed a Stubborn Colony.

On Oct. 1st, I straightened up the combs in one of my bee hives preparatory to Italianizing the colony. Over half of the bees left for parts unknown, but the queen remained. Oct. 5th, I united the bees that remained with another colony. Caught and caged both black queens, and afterwards killed them. On the evening of Oct. 10th, I hung a cage containing an Italian queen in the hive. On the morning of the 12th, I opened the hive to release her Italian majesty. No queen cells had been built after I killed the two black queens; but I found freshly laid eggs—also larvæ, so I searched for another queen and I found her and soon had her beheaded. I then removed the cork from one end of the cage and tied a piece of paper over that end, supposing it would all work right. I closed the hive and did not examine it again for some days. When I did, I found everything just as I had left it. She had not been liberated, but the bees had started a number of queen cells. I tore them down and daubed the queen cage with them, then opened the cage, without removing it from the hive, thinking she would walk out. Some of the bees went in and seemed not to molest her; so I left them to themselves for an hour or so. When I went back I was not at all surprised to find queen still in her cage. I tried to smoke her out gently, but when she did come she came in a hurry and ran rapidly down the combs, out of the hive, and tried to fly; but I was too quick for her, I caught her and clipped her wing, ran her in at the bottom of hive; she remained about a quarter of a minute, and then came out again. I caught and put her in the top of hive and administered smoke. Next morning I found her on the bottom board. I gave them smoke to my entire satisfaction, and the queen is now all right, laying nicely. W. E. MCBRIDE.
Belleville, Ill.

For the American Bee Journal.

Secrets of Bee-Keepers.

I have been much interested in the reports in the Oct. JOURNAL. Some of them to say the least, have a mysterious look but I presume they can be satisfactorily explained. At this time I will direct attention to only two: B. R. Stephens, of DeKalb Co., Ill., bought 80 colonies of bees in the spring. By purchase and otherwise they increased to 102. Mr. S. claims to have secured from this apiary 1,000 lbs. comb honey; 8,000 lbs. extracted, and 80 lbs. wax. The wax was probably secured from the cappings of the extracted honey—being one pound of wax to 100 lbs. of honey. This indicates that much of the honey was thrown out of the combs before they were sealed.

The next report I have selected is from the Messrs. Oatman of Kane Co., Illinois. They claim to have gone into winter quarters with 185 colonies and to have begun the present season with 175. This shows a loss by sales and otherwise, of only 10 colonies, a very flattering result. Their

report shows that they have closed the season with 260 colonies, 7,500 lbs. of comb honey, 500 lbs. of extracted honey, and 150 lbs. of wax.

Now, if the reader will examine the Oct. No. of JOURNAL, for 1877, it will be seen that H. A. Burch reports this apiary as follows: "From 150 colonies of bees on June 1st, 1877, Mr. Oatman has increased his stock to 300." As the Messrs Oatman now report having only 185 colonies in the fall, of 1877, I presume they can satisfactorily explain what became of the balance.*

To complete the box honey report I hope the Messrs Oatman, will tell us how much of that is honey and how much is wood and glass. As the most of this honey is stored in small boxes having glass on two sides it would not surprise me at all if one-third of its weight is wood and glass.

I now come to the wax report which is more mysterious than all the rest. For one I should like to know, if not a secret, how to secure 150 lbs. of wax from the cappings of 500 lbs. of extracted honey. That is one pound of wax to a trifle more than three pounds of honey. In Mexico there is a stingless variety of bees that produces a large amount of wax, but I was not aware that we had such a variety in the United States. Gentlemen please explain.

M. M. BALDRIDGE.

St. Charles, Ill., Oct. 15, 1878.

*[In the absence of explanation, we should say that Mr. Burch counted the increase of Messrs Oatman, even though they had over 100 colonies. For they sold many colonies, to our knowledge.—ED.]

For the American Bee Journal.

Bee Pasturage in the South.

In a late JOURNAL some one inquires about the merits of alsike or Swedish white clover as pasturage for stock. I tried it in the same enclosure with red clover, and none of the animals would touch the latter until the last root even of the alsike was devoured.

I was much pleased with Dr. Brown's article on Bee Pasturage in the South; but he should have mentioned sourwood in it. The variability in the yield of honey from any specified source is well known, but not always remembered. Until last year I never saw bees work on white clover, and so I concluded that in this latitude it would not yield honey. This is the first year since I commenced keeping bees that I have been without buckwheat. I had a half bushel or so of seed but could not get it planted. To make up for its absence from the fields, the bees are gathering honey from several varieties of plants I never saw them visit before.

The writer on "The Sourwood Tree" did not mention its early blooming. I have seen little bushes of it in bloom when only a foot or so high. It is indescribably brilliant in the fall of the year. It has not commenced yet to put on its brightness.

ANNA SAUNDERS.

Woodville, Miss., Oct. 21, 1878.

For the American Bee Journal.

Wintering Bees.

Having been requested to give to the many readers of the BEE JOURNAL my mode of wintering bees, as practiced in this locality, without loss or moldy combs, I will try to make it so plain "that wayfaring men, though fools, shall not err therein."

Choose any soil that is a little descending, and not under water in the spring. Plow, with a corn-plow, furrows the width of hives, as long rows as you need. Throw out the earth on both sides, making the ditch or trench 4 or 5 inches deep, except the lower end, which will be nearly on the surface.

Put any kind of boards in bottom of the trench, then fill the trench with long rye straw. Place it as you would to thatch, commencing at the deep end of the trench.

Place 3x4 or 3x3 inch joist on the straw, against the outside of trench. Now place the hives on the joist close together, with caps removed, also the honey-board or canvas, and place cotton quilts or mats over frames.

Place long straw on the top, commencing at the lower end, 4 or 5 inches thick, letting the straw project over the end hives 2 feet. Stand straw on the butt-end against the hives, on each side and ends, 4 or 5 inches thick. Now place boards 10 or 12 inches wide slanting against the straw and hives on both sides. To form roof, nail together boards 10 or 12 feet long the width of hives, thus, Δ . Bend the straw standing upright over the top of the hives, and this roof holds it down and leaves a space over the frames on top filled with straw, as well as at the bottom of the hives. If row of hives requires more than one length of roof, where they come together pull out some of the straw that lies on top of frames, right and left, about 4 inches in diameter. Bind this, then crowd the roofs together as close as the straw will admit. Bind the straw to a cone or to resemble the nozzle of a Bingham smoker. Place short pieces of boards slanting at the ends of the hives under the ends of the roof and straw that lies on top of the frames.

Cover the whole with earth from 3 inches at ridge to 4 or 6 inches at base.

Now we have a mound, say 40 feet long, with the straw and boards of the bottom projecting some two feet beyond to carry off any water that may collect, and at top of ridge three perpendicular straw ventilators, and a horizontal one at each end. By the earth being removed from each side to cover the bees, the trench under the bees will be the highest, and to keep it dry plow a furrow to drain off any water that may collect.

Thus they remain quiet, not being disturbed or affected by the heat or cold until the maples look red, or they can find pollen; then remove them at night to their summer stands.

This mode of wintering is no new thing. It has been tried successfully in this locality for a number of years.

The most of our hives have loose bottoms, so the bees come in contact with the straw under them.

I formerly wintered in the cellar. If I have choice colonies and want to kill them



without brimstone, I put them there, and when opportunity offers carry them out for a fly, and return them, each time many bees less. Being confined, and more or less disturbed, they become uneasy, and when put on their summer stands they are weak, exhausted, and soon perish, and by the 1st of June they are all gone. I have been tugging in and out all winter, and gained my object. But by way of excuse term it "spring dwindling."

H. W. GARRETT.
Coeyman's Hollow, Albany Co., N. Y.

A Valuable Receipt.

The following recipe I have used for the last 13 years, for hog cholera, saving at least 75 to 90 per cent. of all treated. In consideration of the present wide destruction of hog property, I have concluded to make it public, so that an end may be put to the plague. You will confer a favor on all owners of hogs by its publication.

Tincture aconite root, nux vomica, each, 3½ ounces; rus tox, belladonna, scella, bupitina, each, ½ ounces; white arsenic, 10 grains. Mix.

I have kept the cholera down in my immediate neighborhood for the last 13 years, and as the medicine can be had at almost any country drug store, the publication of the recipe will do a great deal of good. It is a sure preventative. Directions as a preventative. Five drops once a day to each hog in his swill. When the hog is down with the cholera, 10 to 20 drops down either mouth or nostrils. Some claiming each method the best to administer the medicine. Always label the bottle deadly poison, and keep in a safe place away from children.

Buffalo Grove, Iowa. J. M. PRICE.

For the American Bee Journal. Motherwort.

I have watched with a great deal of interest to see if anyone considered motherwort a bad weed. I believe it to be a good bee plant, and think in many soils it may not be troublesome.

When I lived in the State of New York I saw it growing in out-of-the-way places, by the side of the road, and neighbors garden and classed it with catnip. Twenty-one years ago my mother sowed a little seed here. It did not come up at first; but afterwards, when we found a few plants, we greeted them as an old friend. After a while we thought it was increasing faster than we wanted it, but had no fears of it, till a friend visiting us says, you have quite a patch of motherwort. I asked if she would not like a few plants. The reply was, "Don't you put any of that on to our farm." And then she said, "I have it in my flower garden. I suppose it was sown with some seed, but I cannot get rid of it. It will keep coming up." We found it an easy matter to dispose of the roots, but there was the seed in the ground. We were not as thorough about it as we ought to have been; plants did go to seed. Still we kept it from spreading. The place was rented for three years. When I came back four years ago this spring,

it had come up several rods from where it was first sown. And the first thing that was done was to have all the roots dug up with a determination that it should not go to seed again if we could help it.

The second fall we seeded down what ground we could, but that grass had to be weeded as you would a flower garden, till it formed a good sod; and to-day the little plants are coming up from seed, and I do not think there has been any seed scattered since five years ago this fall.

Anything that produces so much seed, and if the seed will be so long in the ground and germinate, is a bad weed in our prairie soil, especially if its perennial. I think corn could be successfully cultivated where it has grown. But as clover ground is sometimes planted to corn, for three or four years, then sowed to small grain, and in the fall it is seeded to clover again. I think you would invariably find it so with motherwort. I would like a good bee plant, but I am afraid of it.

C. F. ALLEN.
Cambridge, Ill., Sept. 23. 1878.

"The Blessed Bees."

I have just received from my friend the author "The Blessed Bees, by John Allen," and I scarcely looked up from the volume, before I had scanned all its fascinating pages.

The book is simple in style, yet very terse, and will charm no less than instruct the reader.

This work graphically portrays what may be done in apiculture, even the first year, if proper preparation is made. Once to think of spending \$34.65 for reading matter, before even commencing the practical part of the art! Yet a thorough mastery of the works procured, by this seemingly extravagant outlay, was the necessary prelude to the author's unparalleled success. His previous study and discipline made this mastery possible.

I have read the book with the more pleasure, as it exemplifies what I have long felt to be true, and often stated, that apiculture offers rare inducements to him who will adopt its pursuits intelligently and energetically, not only for its pecuniary possibilities, but also for the wholesome pleasure which it yields. Nor is it a light joy to think that I induced one to undertake a work which, in the retrospect, makes him to exclaim "The Blessed Bees."

In concluding this brief notice, I would enforce the caution urged by the author: "Every person who begins bee-keeping must not expect as great success as I had the first year. There are few who will study the business as I did; there are few who can secure locations as favorable as mine, it is not always that the season is as good as was my first year. That when the conditions are as favorable, a success as great as mine can always be achieved. I am thoroughly convinced." I would add that success like that detailed in these pages will be very rarely repeated; but a result much less might well make the young apiarist radiant with delight.

Lansing, Mich.

A. J. COOK.

For the American Bee Journal.
Standard Langstroth Hive.

Within the past two years I have seen some inquiries and replies in regard to the size and shape of the hive and frame preferred by Mr. Langstroth; but have seen no correct figures upon the subject. By examining the directions for making hives in the revised edition of Mr. Langstroth's book, it will be seen that the inside of the hive is 18 inches in length, $14\frac{1}{2}$ inches in width, and 10 inches in depth. The outside length of the frame is $17\frac{3}{4}$ inches, instead of $17\frac{1}{2}$ inches as given by Messrs. Newman and Root. This is an important mistake, as it destroys the interchangeableness of the frames. The hive being 18 inches long, and the frames $17\frac{3}{4}$ inches, the space between the end of the hive and the frames is precisely 5-16 of an inch. This is ample space, and was decided upon by Mr. Langstroth after much experimenting. At the time Mr. L.'s book was revised, he preferred to have the top-bars of the frames $1\frac{1}{2}$ inches wide, but if I am not mistaken, he afterwards came to the conclusion that it was better to have them only $\frac{1}{2}$ of an inch wide, which is now generally the preferred width. Mr. L. makes the top bars 19 inches long, but I think if he had used them only 18 inches long he would have liked them better. The width of the hive, whether 14, $14\frac{1}{2}$ or $14\frac{3}{4}$ inches is not so essential, as any of these widths will answer for 10 combs. But the main thing is the depth and length of both the frame and the box. These should always be the same, if the object is to make the standard Langstroth hive.

St. Charles, Ill. M. M. BALDRIDGE.

[True; we desire, above all, to be *exactly* correct. Preferring to have Mr. Langstroth decide the point, we sent him an advanced proof for his decision. His answer is as follows:—Ed.]

[Mr. Baldridge is in error in supposing that such slight variations as he notices destroy the interchangeableness of the frames. Considering the accuracy which may be obtained in making the frames stiff and perfectly square, I prefer the measurements of Messrs. Newman and Root. While beginners may get along better with $\frac{1}{2}$ inch width for the top bars, I still prefer, all things considered, $1\frac{1}{2}$. For more than ten years I have made the triangular guide *very small* (not much over $\frac{1}{4}$ of an inch), and a part of the top bar, so as to need no nailing. This causes the bees to lengthen the pentagonal foundation cells so as to get a little better attachment than when they are built on a plane surface. With the old $\frac{1}{2}$ triangular guides, they usually closed the pentagons *very near the shank edge*, and heavy combs often fell out, when not very carefully handled.—L. L. LANGSTROTH.]

For the American Bee Journal.
Theory and Experience.

We are told that a pure queen of the Italian blood will produce pure queens. If her daughters mate with black drones, their progeny as queen and workers will be hybrids; but their drones will be pure Italians. Now, if these pure drones mate with hybrid queens, would it not purify the queens and workers, and tend to restore the Italian blood? Then, suppose one should re-queen an entire apiary in one summer with the daughters of a pure queen, so that all the drones shall be pure next year, why should not the queens and workers become purer and purer by the force of the law of nature as propounded in the theory? Still more, should they now and then mate with a black drone, why should not the great dominance of Italian blood rule out all black blood in course of time. But is it not true, in fact, that the apiarist to get pure Italian blood and keep it pure, must be ever infusing the pure blood of a foreign queen, or of one of undoubted purity—a daughter purely mated! Still more, how many beekeepers receive imported queens which produce three-banded drones and their daughters do the same. My experience is not very extensive, but I begin to suspect that the notion that the drones of pure queens which mate with black drones are more or less tainted as well as the queens and workers. If I had time, I should try one drone-laying queen from an imported mother, and supply every hive with all the drones I wanted tolerated in my yard. And then I would see what effect this would have on the next queens and their brood. To my mind, the common sense way would be to secure a pure queen for raising queens and a pure drone-laying queen, for drones. Has any one tried it thoroughly? If so, your readers would I think be glad to read an account of the process pursued and the results.

NOVITIATE.

For the American Bee Journal.
Comb Foundation.

In reading the November No. of AMERICAN BEE JOURNAL, one here and there finds the complaints of comb-foundation sagging when used in the brood-chamber, and a remedy is sought after in various ways. Friend N. N. Betsinger, even experimented to the amount of \$1,000, and still without the desired result.

I have now used comb-foundation for three seasons, the last two seasons quite extensive, in fact every comb in my apiary built this season, was built on foundation. When I first used the foundation, I used them 9 inches deep, they stretched in the upper half, so that about 3 inches of its width was not used by the queen for breeding purposes the first year; but the following spring I found to my dismay that every comb had a piece of drone-brood about the size of my open hand, which had to be cut out and replaced with a piece of worker comb, in order to fully control my drone supply for queen rearing.



I next used foundation 8 inches in width, with much the same result, after which I tried 7 inches and 6 inches in width, which gave more satisfactory results. The 7 inch strips would sag enough to find a row or more of drone-brood occasionally; but when used only 6 inches or less in width, and made of pure beeswax, the slight sagging did not prevent the queen from filling them in every instance with worker eggs. But now a new difficulty presented itself; below this narrow strip of foundation, the bees would frequently build drone-comb, and the much desired sheet of "every cell of worker size" seemed yet in the future. A remedy came at last. My frames hold a comb 12 inches square, and, finding I could not use foundation over 6 inches in depth successfully, I divided the comb space in the frame, in 2 equal parts, by placing a temporary center bar into it; I next fastened a piece of foundation $5\frac{1}{4}$ inches in width to the top and a similar piece below the center bar, and I had it. But what about that center bar? Doesn't it occupy space that ought to be filled with brood, &c? Easy, friends; I had my lesson in center bars 15 years ago. These center bars of which I write, are placed in the frame and fastened with one $\frac{3}{4}$ inch finishing nail in each end, the head of which slightly projects on the outside of the frame ends; and as soon as the comb is built, and sufficiently strong to support itself by the side fastenings, the nails are drawn out, a knife passed under the center bar, and the bar withdrawn. In one or two days the space occupied by the center bar is filled with worker comb. In this manner I have obtained over 300 combs, each a foot square, built solid without a single drone-cell; and have several hundred combs in the hives, that still have the center-bar left in, being filled with honey and deemed insufficiently strong, being built late in the season; but otherwise are all worker-comb. From these the center-bar will be removed when I make the usual spring examination.

Friend Godfrey, of Red Oak, to whom I communicated my success with *temporary* center-bars, prepared several hundred frames in that way, and as far as heard from, with the best result.

Nearly two years ago I wrote to "Novice" on the subject of comb-foundation sagging, and suggested linen or some kind of thin cloth for a base, and submitted to him a piece of tracing linen, a remnant from a piece used by my father in 1842 for the same purpose; he soon thereafter sent me two specimens of foundation one apparently on the same tracing linen, which I had sent him, and the other on very thin muslin, or cheese cloth. On page 64, Vol. V. of *Gleanings*, Novice informs us that the bees would gnaw out the threads of the cloth, &c. Desiring, however, to test the stretching quality, I placed them in a frame and joined an 8 inch strip of common foundation below it. The common foundation sagged very much, but the foundation on the tracing linen, nor on the muslin sagged a particle, although the machine had broken part of the threads one way, but by turning it so that the broken threads run horizontally it made no difference. Now Novice's bees

would "get hold of a thread, and then they would tear the cloth all out," but mine behaved more respectfully, and built it out into full combs. What made the difference? Was it because I covered the ends of the threads by joining another piece of foundation?

While on the subject of comb-foundation, I will take the liberty of mentioning a case of misplaced credit: Root claims being the first to mention rolls for foundation machines, and foundation miles long; and even Prof. Cook commits an error when, on page 203 of his "Manual" he says: "It was first made by Herr Mehring, in 1847," and on page 204: "They" (the Germans) "used plates, not rollers, to stamp the wax," and again he says: "In 1868, the King Brothers, of New York, made and secured a patent on the first rollers." Even Novice used soap suds and slippery-elm bark to prevent the wax from adhering to the rolls; until a friend called his attention to starch.

Now the fact in the case is this, comb-foundation was made in Germany in 1842, by my father; they were made by a pair of engraved rollers, and starch was used to prevent the wax from adhering to the rollers. This I mention simply as a historic fact; and to corroborate my statement I refer the readers to page 35 of "The Bee-Keepers' Guide Book," which was issued in February 1868, and 10,000 copies circulated in little over a year; in it I give the following description, "among the earliest of which, probably Kretschmer's comb-foundation can be counted,—who invented and used them in Germany, I think as early as 1843. The device consisting of a strip of tracing linen, coated with a composition of white wax and starch, and upon which the comb-foundation or base of the cells were impressed, by passing it through a pair of engraved rollers." Here we have a description of engraved rollers, and starch; before Novice ever mentioned rollers, and before King Brothers applied for their patent, as a copy of the book was presented to them as soon as issued. And at the time the description was printed, the device was nearly a quarter century old. More anon by your servant

E. KRETCHMER.

Coburg, Iowa, Nov. 9, 1878.

For the American Bee Journal.

Adulteration of Sweets again.

Mr. Root has successively given three motives for refusing to publish the petition against the adulteration of sweets. The first motive was that the petition was not of sufficient importance. The second, that we ought to let demand and supply regulate these questions, and lastly, the third (probably suggested by the manufacturer of glucose), is that the petition says that glucose contains sulphuric acid and lime. Mr. Root asserts that sulphuric acid and lime cannot exist in an active state in the same substance. The petition does not assert that both of these substances would be found in an active state; yet Prof. Kedzie has found both of them in several samples of glucose that he has analysed.

Mr. Payess, a well-known chemist of Paris, in his *Chimie Industrielle*, says that glucose is unwholesome on account of the sulphate of lime that it contains. Sulphate of lime, or plaster of Paris, is a compound of sulphuric acid and lime.

Charles Loudon Bloxan, professor of chemistry in King's College, London, in his "Chemistry Inorganic and Organic," says that it is easy to detect glucose in syrups and honey, on account of the sulphate of lime of the glucose.

Mr. Root admits that to manufacture glucose an acid is used. But he does not give the name of the acid, as if intending to give his readers the impression that some other acid, less unhealthy than sulphuric acid, could be used. He continues, speaking of the petition:

"I presume the Davenport factory uses car loads of both the chalk and the acid in this chemical process, and this may have given rise to the *thoughtless statement* made above. If grape sugar (glucose) is made in so slovenly a manner as to contain articles prejudicial to health, the matter should, by all means, be taken in hand."

I admire that "if" and the "*thoughtless statement*"! of my opponent. My statement is based upon proofs given by the best chemists of France, England and the United States; they all say that glucose always contains more or less of sulphate of lime. But Mr. Root simply expresses his doubts! It is wonderful how foolish self esteem will make a man appear! He continues:

"The refiners of cane sugar use tons of blood and offal of the slaughter houses, as well as burnt bones; but our sugar of commerce contains none of these articles."

I am very far from being a chemist, yet I can see the difference between a mixture and a combination. In the manufacture of glucose there is a combination between corn starch, water and sulphuric acid. The result of every combination is a new compound: here it is GLUCOSE! In the refining of sugar there is but a mechanical process, a mixture, not a combination. The blood is mixed with the syrup; it coagulates, forming a kind of net-work through all the syrup. This net-work seizes and draws to the surface all the impurities of the liquid, while the burnt bones become a filter! But the comparison of Mr. Root is valueless, since one of the processes is a chemical combination, the other a mechanical mixture.

One of the main arguments of Mr. Root, and reiterated by him, is that he can eat glucose without bad results!

Some years ago, while traveling in Switzerland, I noticed that the inhabitants of a great many villages of Valais, were *rickety* and *goitered*. The scientists assert that such a deterioration in men comes from the use of the water that runs down the valleys, from the melting of the eternal snows which cover the tops of the mountains. Some medical authorities think that snow is not the culprit; but that these rivulets, in their rapid course, run over ores of mercury. I freely drank of the same water, and I would have been laughed at had I said: "The scientists are mistaken; this water is wholesome. I drank it for several days without being rickety." Such is the reasoning of Mr. Root! As glucose did not poison him,

the quantity of sulphate of lime being too small to act sensibly on his stomach, he concludes that glucose is harmless! Drops of water, falling for years, will wear away stones, and a poison, like sulphate of lime, has a power of deterioration certain, although at first insensible, on the human organs, and on the organs of bees, too.

My opponent not only takes sides with the adulterators of honey, but he denies that cane sugar can be adulterated. Of course his reasonings are of the same kind and strength as those on glucose (see *Gleanings* for October). He puts a lump of sugar in a glass of water; the water remains clear, therefore the sugar is pure. Such is the test of this editor! This test is cheap and easy, but it proves nothing! Will Mr. Root take a moment's rest, and read from the *Chicago Tribune* of October 7th, a statement made under oath by Mr. William T. Booth, of the firm of Booth & Edgar, sugar refiners of New York. The firm of Booth & Edgar enjoys, morally and financially, the highest commercial credit. Mr. Booth testified before Fernando Wood, chairman of the ways and means committee of Congress, Sept. 18. The inquest had for its object to ascertain if frauds existed in the refinery business.

The sugars imported are taxed at the custom houses according to their qualities, the most inferior qualities, such as the milado, paying only one and a half cents, while the refined pays five cents. It seems that some unprincipled refiners have found a cheap way to turn the inferior article into a good-looking article, and thus defraud the government of the greatest part of its duties. Mr. Booth says:

"I tell you, sir, that adulteration of sugar does concern the committee of ways and means; it concerns the board of health; it concerns everybody. Think of it; by-and-by, when the people of this country have eaten enough of this sugar to become tin-lined, so that the stomach and bowels shall be coated with tin. What a pleasant thing it will be for us, fathers of families! Our children won't cry any more; there will be no more stomach-ache, for the stomach will be tin-lined...."

"What has been the history of this race in adulteration in every business? Why always the worst man wins. It is the man who will go farthest, who will sell himself body and soul to the d--l most completely, who wins in that race...."

"A man came to me some time ago and said: 'Doctor, you are a fool!' I said: 'It may be; but I am an honest one.' Said he, 'You know about that glucose business, don't you?' Said I, 'Do you think I am ignorant and don't know my business? Do you think I don't know what is going on in all these refineries?' 'Well,' said he, 'you are a fool! Why don't you go into the glucose business? Your firm has had the reputation of making good, straight, honest sugars, and you can put glucose into them, and nobody will know about it!' 'But,' said I, 'when I die, I will die honest.' I have had men come to me, week after week, offering me this and that adulteration, and saying 'others use it. I sell car-load after car-load of it to this and that concern; they are all using it in large quantities.' My position as a refiner has been such that I have been enabled to know just about what was going on in regard to this glucose business; and I think we shall all hear more about it by-and-by? No, sir; this talk about the adulteration of sugars is not bosh."

Will my opponent be convinced by all the proofs that I have gathered? I dare not hope it; for none is more deaf, than those who refuse to hear!

Mr. Root says that we have State laws. Yes! But they are dead letters; they cannot be enforced.



For the American Bee Journal.

The Variableness of Queen Progeny.

FRIEND NEWMAN :—Of late I have been reading with more interest than usual, on the variableness of the queen progeny and the color of the Italian bees, the fixing of a standard of purity for the Italians, and light vs. dark Italians. On page 262, A. F. Moon says: "locality makes a difference in color." That is very true, but he says nothing about the season of the year. On page 268, S. D. McLean says: "the queen's abdomen should be bright yellow, tipped with black with or without the black points on the back." Jos. M. Brooks on page 273 calls for "Princesses, exact duplicates of their mother." Alva Reynolds on page 278 A. B. J., "it is a well known, &c., black bees were pure blacks from the beginning, and reproduced themselves all alike, regardless of sex." But they are not particolored, and the Italians are, and that is where the trouble mostly lies. Now, I cannot see why a standard of purity for the Italian bees cannot be made, as well as the American standard of excellence for the poultry breeders to be governed by; but a scale of points would not be quite as easily determined as it is on fowls. Why should not bees be bred to a particular description as much as fowls or cattle? There is a variableness in all kins of stock I care not how pure or how carefully they are mated and bred. I should like to see a queen that will duplicate herself every time in her queen progeny for two generations. A queen that is of a clear light color, and can do it, would be worth \$100.00 to any breeder. I think it can be done, and yet I doubt that it will be done because no bee-keeper will take the trouble to do it. If a queen duplicates herself in one-half her queen progeny I should be well satisfied, and one of the great secrets I feel sure, lies in the mating or drone influence, and to explain I will relate some experience in fowl breeding and the results of different mating.

My favorites have been light brahmas and buff and partridge cochins; the two first I kept for seven years, the latter for five years. My first brahmas and buff bred true to color and markings, but to put in new blood I purchased thorough-bred males of both kinds, but the chickens raised were anything but uniform. I had to breed back again, before I obtained any uniformity of feather or color.

A queen is as liable to vary in either her drone or queen progeny as a hen is in her pullets or cockerels.

I have kept the Italians for five years, and from the dark queens obtained when I made a cross, I have in the second and third generation raised as even-colored young queens as I did from the light-colored ones, but just as soon as I put in new blood I have had this experience over again; it can be controlled to a certain extent.

If you want the light colored, select the strongest and most productive light colored colony; from that raise drones, this is No. 1; then get a one or two-year-old light colored queen to raise queens from, this is No. 2. Mate the young queens with the best light colored drones from No. 1; test them for

Suppose that a dealer of New York sells pure glucose honey to a grocer of Hamilton. The law gives me the right of prosecuting the grocer for selling an adulterated article and the grocer will be fined, but the rascal who wholesaled or manufactured the adulterated article, will be free, on account of the difficulty and cost of prosecuting him in another State! The innocent sustains the loss while the guilty goes free.

It would be altogether different with a law made by Congress, and the watching of food inspectors. Every transgressor would fear to be prosecuted and the adulteration would be stopped.

But to obtain such a law we need the help of every one; so get the petition signed. Not one of us should be without a copy; obtain signatures of all our neighbors, and return it filled with names. Send a postal card at once to get one.

Again, Mr. Root says:

"It is a singular fact that although glucose is a liquid and grape sugar a solid, the latter contains a much larger per cent. of water, held by a curious law in chemistry, in a solid state. If we produce the grape sugar by adding more chalk, as friend Dadant suggests, I am afraid we should soon come to grief, for chalk is an insoluble compound, and the first lump of sugar our purchaser puts into his mouth would reveal the cheat. I know, by the letters received, that there are those so thoughtless as to suppose that it is possible to add chalk. Will those people please dissolve a lump of grape sugar in a little warm water and see if it does not all dissolve perfectly?"

After giving such proof of his knowledge in chemistry and common sense, the editor continues:

"I might have published the article, it is true, and it may be my duty to give everybody a hearing, even should they send in a paper claiming that the moon was made of—chalk; but would it be profitable to occupy space thus?"

I answer, chalk is carbonate of lime. In the tank, where glucose is manufactured the lime of the chalk combines with sugar and forms other compounds. My answer is: Sugar will form with lime several compounds very soluble in water.

Liquid lime is also found naturally in the water of some springs, which, as soon as it comes in contact with air, deposits its lime on the objects on which it runs; in the sap of trees and plants, in whose ashes lime is found, etc.

Mr. Root believes too much in his own infallibility in bee-keeping, chemistry and other matters. What is not in accordance with his imagination is wrong; is nonsense and moonshine! And we, his readers, know that his imaginative power is very large!

I am not alone in thinking that Mr. Root's paper would be greatly enhanced in value if he desisted from his steady habit of expurgating from the bulk of the articles received everything he does not endorse and thus to pronounce judgment on every article published. Such as are now contained in *Gleanings*, to use the expression of one of his friends, have proved to be a simple medium for the advertising of wares of the editor, with an intermixing of mere boy-talk.

Hamilton, Ill.

CH. DADANT.

color and strength of both drone and worker progeny. Select two more colonies from the light colored young queens, regardless of the color of drones; we will call this No. 3; and the one with light colored drones No. 4. Start cells from No. 3, and mate the queens with drones from No. 1. Start cells from No. 1, and mate with drones from No. 4. Start cells from No. 4 and mate with drones from same hive. This is not in-and-in breeding; the queens from No. 4, are only half sisters to No. 4 drones, the drone sire having no influence over the drone progeny and by breeding in-and-in and selecting carefully, you will not only know what you have, but will positively establish any particular type that you wish. By selecting the strongest working colonies for breeding, and dispatching those that are weak and poor honey gatherers you will establish a type, and will lose no strength.

A standard, close and strict, will not make bees breed to a particular color or size any more than the standard of excellence will prevent black necks on the light brahmas or yellow on white leghorns! Any thorough-bred bird or animal may be bred regardless of selection, and vary, without being impure—bees not excepted. H. L. JEFFREY.

Woodbury, Conn.

Our Letter Box.

Hillsboro, O., Oct. 11, 1878.

We had 57 colonies in the fall of 1877; lost none during winter; lost 1 in the summer; have now 71; sold 1, and had 3 new swarms go off. Wintered out doors, 13 packed in leaves, all wintered well. I have taken 2,100 lbs. of comb honey. I never used the extractor. We sell our honey at 16 and 17 cents wholesale. We use mostly 4 lb. boxes. We have no Italians.

THOS. H. DICK & BRO.

Henry, Ill., Nov. 9, 1878.

I have obtained 2,000 lbs. of white clover and basswood honey, besides 1,500 lbs. of mixed honey this season, from 170 colonies in the spring (now 200). Does oak bloom, timothy, hemp and aspen produce honey? All in this section like the AMERICAN BEE JOURNAL and wish it success.

OTTO HALBLEIB.

[The aspen yields some honey; some of the others named give pollen, but little, if any honey.—Ed.]

East Berkshire, Vt., Sept. 18, 1878.

DEAR EDITOR:—Being interested in bees and honey, I desire to inquire if something cannot be done by County and State Agricultural Societies to advance bee-keeping interests by way of offering a subscription to the AMERICAN BEE JOURNAL for the best display of honey; Italian queens and implements might also be offered. Two years ago, there were only two exhibitors, of honey. At our State Fair this year, there were six. So you see scientific bee-keeping is on the rise. We have no Bee-Keepers'

Society in our County (Franklin) yet, but think one may be organized this winter. The season has been very good since June 15th, but the month of May was very poor, so much so, that I had to feed to keep some of my bees from starving; fruit blossoms were of no account. Have averaged about 70 lbs. of comb honey per colony and doubled my number of colonies.

F. W. COMINGS.

[Some of the managers of Fairs have already given a year's subscriptions to THE AMERICAN BEE JOURNAL as a premium, and if bee-keepers in each locality would write to the Managers of the Agricultural Societies in their locality, suggesting such a plan of procedure, they would in nearly all cases be glad to offer such a premium.—Ed.]

Claypool, Ky., Oct. 7, 1878.

DEAR EDITOR:—The past season has been a poor honey season with us. The spring was favorable up to the last of May when it set in cold and wet, continuing so for about a month. On this account our white clover crop was a total failure. Bees gathered no surplus from June 1st up to about the middle of August. From the 20th of Aug. till Oct. 1st, we had a moderate flow of honey, enabling our bees to go into winter quarters in good condition.

Below is a statement of our seasons operations:

Apiary	Dr.
To 43 Colonies in spring @ \$10. each.....	\$430.00
" Apiarian supplies on hand.....	50.00
" Apiarian supplies for season.....	46.00
Total.....	\$526.00
Apiary	Cr.
By 65 Colonies in fall @ \$8. each.....	\$520.00
" Apiarian supplies on hand.....	50.00
" 50 empty hives on hand @ \$1.....	50.00
" Bees and hives sold.....	70.75
" 1,200 lbs honey @ 10c. per lb.....	120.00
" 30 lbs. wax @ 20c. per lb.....	6.00
Total.....	\$816.75
	526.00

Balance in favor of Cr.....\$290.75

JAMES ERWIN.

Mt. Joy, Pa., Oct. 17, 1878.

In answer to a question in the BEE JOURNAL for Oct. I would say, that bees can get honey from red clover, if the weather is of the right kind. If there be no rain for a month before its blooming, the clover heads will not get so long, and the bees can reach the nectar. The past season has been a poor one; May and June was wet but about July 18th, when the second crop of red clover bloomed after being mowed, the bees worked on it with a will. I got from 40 to 50 lbs. of red clover honey from some of my colonies. There was nothing else, and had it not been for it my colonies would not have had enough to winter on. The black bees gathered but little from red clover, and are now short of honey for winter. Alsike clover is as good as red clover, for feeding purposes—perhaps better. J. F. HERSHEY.



Brandywine Summit, Pa., Nov. 14, '78.
 "I received seven first-premiums and diplomas at the Delaware County Fair, for having the finest display of honey, bees, bee-hives and apiarian implements."
 J. T. WILLIAMSON.

Philadelphia, Pa., Nov. 11, 1878.
 Nice comb honey is selling here at 25 cents per pound. It is sad to see the amount of bottled honey (so called), which I suppose contains only 40 per cent of honey, and one I sampled contained no honey at all. Should I find time I shall put a few of the samples found in commerce to a test.
 W. B. RUSH.

Limerick, Ill., Sept. 9, 1878.
 A woman living across the corner from here, had a swarm of bees put into a common box 11 years ago. They swarmed every year since, and gave some surplus. In 1877 they gave 4 swarms, and one 10 lb. box of honey. In 1876 3 swarms and two 10 lb. boxes of honey. One other year it gave 3 swarms, and then she sold it to me for \$6.25. It gave me 2 swarms this year and is good for 20 lbs. of honey. The first swarms generally sold for \$5.00, without a box, the buyer taking them home at night. She has been for years successful in wintering; she leaves and empty honey box on top; when frost gathers in it, she dries it; said hive stood on a bench one foot high, winter and summer, in a three sided shed opened to the South; the front board of the hive being 2 1/4 inches shorter than the rest, making the entrance the full width of the hive and 2 1/4 inches deep. This swarm has paid for itself several times.
 E. PICKUP.

Dundee, Ill., Oct. 7, 1878.
 The spring of 1878 opened early with us. We put our bees out on March 4th. They soon began to carry in pollen, and rapidly increased in brood, and by the time fruit trees bloomed they were ready for work. Then cold rains came, and frost, and as a result they barely got enough to live on. A part of May was quite warm, and on May 11th in the afternoon, the first swarm issued and on the following morning the second. These I was obliged to feed. White clover came on about the middle of June, and the bees were again ready for business. We took 1,200 lbs. of extracted honey and 65 lbs. of comb. The average from each colony was 70 lbs. I increased mostly by natural swarming. We have 42 colonies, one-half of which belong to me. As I have all the care of them; it will take all my time next summer. I owe nearly all my knowledge to the AMERICAN BEE JOURNAL. We wish it prosperity.
 FAYETTE PERRY.

Chattanooga, Tenn., Nov. 6, 1878.
 FRIEND NEWMAN.—I see that I have been appointed a Vice President of the National Bee-Keepers' Association. This is a compliment entirely unsought by me, nevertheless it is appreciated. I take pleasure in forwarding to you \$1.00 which I believe is the initiation fee? Please enroll me. If the fee is not right I'll make it so. I have never been able to attend the

meetings of the Association, and do not see any prospect ahead for doing so, but I will take great pleasure in co-operating with the fraternity for the general good of the art and trade. Please accept of my hearty congratulations upon the manner of the Association's selection of you for President. You are undoubtedly the man that can serve them best.
 S. C. DODGE.

[Thanks, friend Dodge, for congratulations, but more for the expressions of determination to co-operate for the good of producers. The Association will come nearer to you soon, we expect, and then we shall be glad with your presence, if you cannot come to the next meeting at Chicago. We hope you will try to do so.—Ed.]

Wilmington, N. C., Nov. 18, 1878.
 FRIEND NEWMAN.—I see by your valuable paper that I have the honor to be elected one of the Vice Presidents. I assure you no one feels more deeply interested in the subject of bees than myself, and whatever I can do to further the interests of apiculture, you may rest assured I will gladly undertake.
 R. C. TAYLOR.

[Yes, friend Taylor, your interest in bees, and business-like habits procured your appointment. North Carolina is a good State, and contains many bees, but exceedingly few apiarists! The work of procuring the adoption of scientific principles in your State lies before you. Neighborhood bee-talks; and County and State Conventions loom up as the result of your labors! Lo! your State is ripe for the harvest. Buckle on the armor and victory is yours.—Ed.]

Medford, Minn., Nov. 16, 1878.
 The results of the year have been poor; the fall crop was fair, and helped to fill up the hives so they are in good condition for wintering. My crop was a few pounds less than one ton. Nearly 1,600 lbs. of extracted and 385 lbs. of box honey. I commenced the season with 41 colonies and increased to 56.
 J. E. CADY.

Harrisonville, Mo., Nov. 16, 1878.
 The spring of 1878 opened early, and my 50 colonies of bees came through all right. But during May and June they stored but little honey, on account of excessive rains. July was rather dry but there was much honey-dew on the hickory, and bees stored it fast, soon making their hives heavy. August with occasional showers, maturing vegetation, gave promise of a bountiful yield of honey in Sept.—usually the great honey storing month with us. But September was dry, and this with early biting frosts about the middle of the month, ruined the honey prospects; so that I extracted only 20 lbs. on an average from my 90 colonies; but my bees are all in good condition for winter. Buckwheat yielded no honey this season. Honey-dew and spanish needle were our main source.
 LEE EMRICK.

Conventions.

The National Convention.

The following is the gist of the correspondence omitted, in the report of this Convention as given last month :

Statistics.

Rev. A. H. Hart, Appleton, Wis., says : "According to the best information I have been able to obtain, the product of this State is 850,000 lbs. of honey, and 8,250 lbs. of wax."

W. M. Kellogg, Oquawka, Ill., says : "The No. of members in the 'Western Ill., and Eastern Iowa Association,' is 79. No. of colonies of bees kept by its members May 1st, 1878, was 3,989. No. of pounds of honey gathered in 1877, was 144,000."

D. D. Palmer, New Boston, Ill., says he estimates that "in the State of Illinois there are 500 persons keeping bees; they have about 14,000 colonies, from which they receive about 500,000 lbs. of honey and 70,000 lbs. of wax."

John H. Keippart, Columbus, O., promises information soon.

Gen. LeDuc gives, as the "probable amount of honey produced in the United States, forty-five millions of pounds. In Kansas in 1872 the assessors reported 14,845 colonies of bees, with a yield of 133,384 lbs. of honey, or only 9 1-10 lbs to the colony."

Rev. M. Mahin, D.D., Logansport, Ind., writes : "I estimate the number of colonies in the State of Indiana to be about 570,000—yielding less than 25 lbs. per colony, the honey production of the State being 14,250,000 lbs. At 15c. per lb. this would amount to \$2,137,500."

J. M. Shuck, Des Moines, Iowa, says : "The honey interest in our State is a large one, and should be properly organized, and if we had been blessed with county organizations or societies for the propagation of our interests, I believe a fine honey report from Iowa would have been promptly furnished."

New Comb Foundation and Machine.

Mrs. Frances Dunham, DePere, Wis., sent samples of her foundation, made upon a machine of her own invention and said : "I do not claim anything for it, only hope it will be an improvement. I beg you to judge the product, not the machine, which I do not consider perfect in working; but expect my new machine to be so, and also am going to have the cells a little deeper, though of the same round form. I have not experimented with it at all in the hive, with the exceptions of the imperfect frame sent you, which I placed for my own gratification in the center of one of my strongest colonies, in the hot weather of July; it was filled from top to bottom bar, pressed into place at the bottom. I have applied for a patent, not to make the price of foundation or machines higher, but because I hope to be allowed to benefit by what has cost me much thought, although I am 'only a woman.'"

Standard of Purity.

R. M. Argo, Lowell, Ky., writes : "I expect our National Convention, shortly to meet in New York, will be called upon to establish a standard of purity for Italian queens. I am in favor of some such standard if it can be made, but if they should undertake it at the next convention I fear they will find it rather a herculean task, as hardly any five or six prominent bee-men of long experience agree on the same test. Also, all who have imported queens direct from Italy know very well that they are several shades darker and that the bright color is bred in this country and does not come till the second or third generation. If the convention should establish a standard it will be properly called the American standard of purity of the Italian queen bees, and then when queens are imported by those who had never imported before, and their color is far below the standard of purity, what will they say? Will they not say our standard is defective or their queens are hybrids? Had we not better first settle the question whether there are hybrids in Italy, as I believe there are, and if it is a fact that there are hybrids in Italy, we will then be far better able to establish a standard of purity."

Bees in Italy.

Mr. C. J. Quinby, who had just returned from Europe being called upon by the President for a speech, said : "That he had visited nearly all the principal bee-gardens and queen-breeders of Northern Italy and was surprised to find their bees so black; they were generally three-banded, but one had to look closely to see the bands. He had also thoroughly inspected all the apiarian displays at the great exhibition and pronounced them very inferior when compared with our own appliances for manipulating the bees and their products. He pronounced our 'American Italian bees' decidedly superior in all respects to anything he saw in Europe."

Bee-Keeping in California.

The settlement of California by white people has been so recent, and the peculiarities of its flora so different from most other parts of the world, that the introduction of many plants and animals common elsewhere but not indigenous here, has occurred within the memory of men of this generation, or the one preceding. While in other countries the knowledge and use of certain plants and animals extends back of civilized history, and in the United States, east of the Mississippi river, no exact date can be assigned to their introduction; in California most of the cereals, the fruits, the domestic animals, and the enemies and diseases that attack them, can be traced to the exact date of their introduction, and in most instances the importer can be named.

The first settlers, in 1760, were the catholic missionaries who did most remarkable work in civilizing the Indians and introducing the products and appliances of civilization.

But among the many things brought by them, there is no record of the honey-bee, nor did any of the Spanish native residents



of California know anything of bees or honey until after the discovery of gold and the influx of "Americans," as people coming from our Eastern States were generally called.

The following letter gives the most reliable information I can obtain in regard to the first importation of bees. It is quoted from Harbison's "Bee-keepers' Directory; or, the Theory and Practice of Bee-culture," published in 1861. Mr. Harbison has been and is the most extensive apiarist on the Pacific coast; the inventor of a hive and section box for comb honey very generally in use here; has been constantly in the business for over thirty years and is generally known among bee-men throughout the United States.

A large part of this article is from his book or his personal experience since its publication. The letter is as follows:

San Jose, Jan. 11th, 1860.

"The first bees introduced into California was in March, 1853. Mr. Shelton purchased a lot, consisting of 12 colonies of some person, to me unknown, at Aspinwall. The party who left New York became disgusted with the experiment and returned. All of the hives contained bees when landed in San Francisco, but finally dwindled down to one. They were brought to San Jose and threw off 3 swarms the first season. Mr. Shelton was killed soon after his arrival, by the explosion of the ill-fated steamer Jenny Lind.

"In December 2 of the colonies were sold at auction to settle up his estate, and were bought by Major James W. Patrick, at \$105 and \$110 respectively.

"Mr. Wm. Buck imported the second lot in November, 1855. He left New York with 36 colonies and saved 18. I purchased a half interest in them. I also, in the fall of 1854, bought 1 colony of Major Patrick, from which I had an increase of 2. Mr. Buck returned to the East immediately and returned in February, 1856, with 42 colonies of which he saved but 7. Our increase in 1856 from the 28 colonies was 73; we also had about 400 lbs. of honey in boxes, which we sold at from \$1.50 to \$2.00 per pound.

"Mr. Wm. Briggs of San Jose brought out in the spring of 1856, 1 colony from which he had an increase of 7 or 8 colonies the following summer.

"The above were the only importations I know of prior to the spring of 1857. There are in this county about 1,000 colonies."

F. G. APPLETON.

In November, 1857, J. S. Harbison started from Lawrence Co., Penn., for California, with 67 colonies of black bees. After a journey of 5,900 miles in 27 days, during which time the bees were allowed to fly out once, at Aspinwall, they arrived at Sacramento, California, reduced in number to 62 but as some of these were weak, they were united with others, reducing the number to 50. Some of these were sold, and the remainder, 34 in number, increased the following spring to 120 and were all sold but 6. The price realized was \$100 per colony.

In December, 1858, Mr. Harbison started again from New York with 114 colonies, 68 from Centralia, Ill., and 46 from Lawrence Co., Penn., and arrived in California Jan. 1,

1859, with 103 colonies living, but owing to the season and unfavorable weather these became reduced to 62. From these and the 6 previously remaining, during the spring of 1859, the number was increased to 423 by "dividing."

Of these, Mr. Edwin Sherman took to Los Angeles county, in December, 1859, 24 colonies, which were sold and distributed in that and the adjoining counties, and their progeny furnished most of the wild bees of Southern California, as well as the basis of the recent increase in some localities.

In the fall of 1859 also, Mr. J. Gridley brought 4 colonies across the plains in a spring wagon, allowing them to fly out occasionally in the afternoon, and they arrived at Sacramento in good condition.

The success of these ventures induced other parties to import bees in large numbers, as many as 6,000 or 7,000 colonies being brought from New York to California in 1859 and 1860, but unfortunately "foul brood" was introduced with some of them and rapidly spread till the total destruction of bee-keeping was threatened and many persons lost heavily, the price rapidly declining from \$100 per colony, till there was no sale.

Most of the apiarists had been located in the Sacramento and other large valleys, and the great floods of 1861-2, which destroyed so much property, swept away many apiaries; only a few, located in the mountains, escaped.

For several years bee-keeping was in very little favor, but little honey was put on the market and but few cared to keep bees for a business. In the southern counties that have since proved to be the best locality for bee-keeping in California, and taking into consideration all conditions of climate and flora productions, perhaps the best in the world, it had not then become a business; the few colonies that were kept on the ranches receiving very little attention. I have in my possession 2 of the original colonies brought down by Sherman, and sold to Col. C. J. Coutts of San Diego county, and kept on his place until I acquired them in 1875. They still contained bees, but no attention had been paid to them, the swarms sometimes being hived, but allowed to run away and fill the trees of the mountains a few miles distant.

In 1860, Mr. A. J. Bigelow of Sacramento, left New York with 113 colonies with Italian queens raised by Mr. S. B. Parsons, of Flushing, L. I., and reached California with 111 in good condition. These were the first Italians brought to the State. In 1875 Mr. J. S. Harbison imported 20 carefully selected Italian queens, and from these two importations have been bred most of the hybrid bees now generally kept here.

After several years depression in the bee business, Mr. Harbison who had bred up a stock from the few that escaped foul brood and the inundation, heard that 3 colonies brought into San Diego county from Los Angeles, had done remarkably well, and determined to try establishing an apiary there. He and his partner, Mr. R. G. Clark, arrived in San Diego in November, 1869, with 110 colonies. The success of these both in increasing and in gathering honey

was so encouraging that they brought 154 more in 1871, and during several succeeding years Mr. Harbison brought down all his colonies, amounting to 1,000.

In 1870 these gentlemen commenced selling to other parties, and as it seemed a very profitable business, a great many persons engaged in it, until in the spring of 1876 the number of colonies of bees in improved hives in San Diego county alone, as returned to the assessor, was over 23,000.

The other counties of southern California also went largely into the business, Los Angeles county having 24,000, and San Bernardino, 6,000.

In 1869 one case of comb honey was shipped from Sacramento to Chicago, in the first car of fruit ever sent overland. In 1873 Messrs. Clark & Harbison shipped a full car load of 10 tons to Chicago. Previous to that, the local markets of California had consumed all produced at a good price, but the amount had then increased so much as to require a market elsewhere. Since, California honey has been shipped to all the markets of the Eastern States, and is known and generally liked for its color and flavor.

During the season of 1876, about 3,000,000 lbs. of honey were produced in California, of which San Diego county furnished one-third. Los Angeles and San Bernardino counties combined another third, and the rest of the State the remainder. This was the largest amount hitherto produced. It is too early yet to estimate the amount for 1878, but there will probably be less comb-honey, and more liquid honey than in 1876. In 1877 several causes combined to produce a disastrous result for the bee interest.

The winter or rainy season, was extremely dry; the spring was very cold and backward and the early summer exceedingly hot. The supply of honey was cut off, very few colonies gathered enough for their own use. The result was a very great mortality from starvation, amounting to one-half in San Diego, fourth-fifths in Los Angeles. Some owners saved their bees by feeding; others a part by distributing equally the stores among as many colonies as it would carry through, but no surplus honey was made.

The present season has so far been a good one, the spring was backward and cold, but the summer has been very favorable and bees have generally gathered more honey during July than in any previous year, but the great reduction in their numbers during the past year, will restrict the aggregate crop, though the average per hive will be large.

The number of colonies of bees in the southern counties of California, which embraces the greater portion of those in the State was estimated about 30,000 in March, 1878, and the increase this year will probably be fifty per cent. San Diego county has principally engaged in producing comb-honey while the others get liquid honey by extracting.

Southern California is peculiarly adapted to bee raising and honey producing for several reasons. The equable nature of the climate is a great advantage. The temperature seldom falls as low as the freezing point, and even frosts are uncommon. During the winter or rainy season, bees require

no shelter, and can fly out more than one-half the time, indeed most of the time can find food. The summer is entirely dry, no rain, hail, or thunder storms interfere with the labors or breeding of the bees, or cause disease among them.

Feed is obtained during nine or ten months in the year and surplus honey gathered for four or five. There is a very large area of rough mountainous country, with small valleys, furnishing sites for small farms and apiaries while the mountains are covered with honey producing plants peculiar to this region, and never likely to be disturbed in their luxuriant growth. Among these are the following:

Manzanita, blossoming in February; alfifera, in March; black sage, in April; wild alfalfa, in May; white sage, in June; California sumac, in July; greasewood, golden rod and blue curls, in the fall.

During a great part of the honey season the nights are foggy and damp and the days bright, warm and still, the most favorable conditions for bees to work and store honey.

In the work published by Mr. Harbison quoted from above, he says: "In California the quantity of honey gathered by a single hive in a year is greater, and the quality better than is usually found in any other country. Owing to the peculiarly dry climate the honey is more dense, weighing nearly one pound more per gallon than that usually made in the Atlantic States, in consequence of which it will keep good for years, and can be transported to the Atlantic cities and to Europe in prime order and at a profit to the producer. And the time is not distant when, if the business receives the attention it deserves, the export of honey and beeswax will be no inconsiderable item of revenue to the apiarist of the Pacific coast."

This was written nearly 20 years ago, and the writer has seen his prophecy abundantly fulfilled by the shipment of large quantities of honey from California to all parts of the world.

We labor under the disadvantages of distance from the great markets, the exorbitantly oppressive freight charges of a railroad monopoly and some old fashioned customs; but we are making improvements in the spirit of the age, we are doing our part in opening up the markets of the world, and we hope to be able to get more reasonable rates of transportation.

While we do not wish to crowd out any one, we claim the right to place our product on the market in fair competition, trusting to its own merits to secure for us a reasonable compensation for our labors and investments.

Several of the counties of California have their bee-keepers' associations incorporated under the general law of the State, and they are doing much good in exchanging ideas and experiences and in combining for mutual interest in shipping, &c. Through their united action some salutary laws have been passed and some trade regulations established, and it is to be hoped that they and such associations—local, state, and national—will be warmly sustained and enabled to go on with their good work.

CHAS. J. FOX,
Pres. San Diego Bee-keepers' Association.



Italian Bees.

Bro. Bee-Keepers in the National Association assembled:

I know of no way to get at the above subject in a manner that will be more instructive to the inexperienced, than to simply give my experience with this race of bees. This experience will also explain my former writings upon the subject.

I began bee-keeping as a specialty in the spring of 1869. I began by purchasing 48 colonies of black bees, and one Italian queen, for which I paid \$8. From this one I reared others, though only a few, and consequently my experience was mostly with the blacks. I rapidly learned their ways, and at the same time some of the disagreeable ways of hybrids. I next purchased one more queen at \$2.50, and was quite pleased with her and her's, for a time, but more cross-hybrids was the result. About these winters, bees in this part were dying to a great extent, in cellars, special houses, and on their summer stands alike. I noticed that the Italians withstood the disease much, yes, very much better than the blacks. I at once made up my mind to Italianize my apiary, and "done with it." I had about 40 colonies and I purchased a queen for every one of the 40 colonies, at \$2.00 each. Now I had Italian bees, and an Italian apiary, and from that time I have wintered most of my colonies, while the blacks mostly died around me. But then came new trouble. I was producing mostly extracted honey, and these yellow jackets would not shake off the combs, but hang like "stick-tights." They would not work in sections till they had filled in too much honey below. Comb honey began to be the most profitable to produce, and I arranged for that, and horror of horrors! they could not build comb any where near equal to the black bees. Then I thought that the loud praises I had heard of them, was all "put on" for the gain in this traffic. Really indignant, I took up arms of ink against the fraud. No doubt many were caught by their beauty, and others carried on the deception for gain, but a few good, reliable bee-keeping friends still swore by the Italians, and I was induced to try them once more. I next bought 25 full colonies and some more queens, and at once I began to discover that I had a very different and superior race of bees to any I had ever owned or seen before, and also that they would go right up stairs and build more comb in the same length of time than the blacks would. That they were very much superior to the blacks, or my former Italians, as honey gathers (especially in the fall). I began disseminating their blood into my apiaries. In all my surplus honey of last year I found but one moth larva. This year in all the surplus from nearly 400 colonies, and most all comb honey, not one. The bees do not look like the former Italians I had had, or any I had ever seen, and now comes the best and most exceptional circumstance of all. The hybrids of these and black bees are just as good workers and amiable bees as the pure Italians. In one of my apiaries I still have a few of the old stock of Italians and the past summer their average yield was not to exceed one-third of that of the best

colony. Producing honey—most of you know—has always been my favorite branch of apiculture. I must say that I am satisfied with my present stock, though "onward" shall ever be my motto, and I shall do my little might to still improve my bees by destroying the poorest and breeding from the best.

JAMES HEDDON.

Dowagiac, Mich., Sept. 25, 1878.

Extracted Honey.

Mr. President and Members of the National Bee-keepers' Convention:

The theme allotted me by your Executive Committee, is one of no small importance to American apiculturists. Especially is this true at the present time, when the general shrinkage of values, incident to a return to specie payments, is constantly lessening the margin between the actual cost of our production and the price they will command in our fluctuating markets; yet it is one that has, hitherto, received too little attention. In composing this subject we have availed ourselves of facts and figures. Everything in fact that had either a direct or indirect bearing upon result, and we herewith submit our deductions in the premises. While they do not leave as large a margin for profit as we could desire, we feel that they are in accord with the facts in the case; and in submitting them for your consideration we court the fullest investigation of the positions herein assumed. Our only aim has been to correctly solve the problem, regardless of all other considerations.

One hundred colonies of bees are about all that can be profitably kept in one location, and will give one person full employment where the extractor is exclusively used for at least 150 days out of each year.

In the days of box-hives and black bees, before our late civil war, when gold was the basis of our currency, these 100 colonies were worth \$500. At the present time, with Italian bees and movable frames, they will represent twice that amount, or \$1,000. While in some isolated cases, bees may be purchased for less money. One hundred colonies arranged for the extractor with an extra set of combs are worth, or will command fully that sum. Suitable appliances for carrying on business will cost \$500 more. This includes ground for a bee-yard, a bee or honey-house for storing honey in summer and protection of bees in winter, and all other necessary appurtenances. These two sums then will represent the investment. The interest, taxes, and insurance thereon, will amount to about 10 per cent., or \$150; the labor required at \$2.00 per day, will amount to \$300 more, \$450 in all. This much for the outlay. Now such an apiary will give an annual yield of 5,000 lbs. of extracted honey. But little increase of stock will be secured where the extractor is exclusively used—enough perhaps to cover losses in wintering. According to the above figuring the actual cost of producing extracted honey is 9 cents per pound.

In the foregoing calculation we have endeavored to avoid extremes, and thus obtain an averaged result.

There are localities where our apiary will produce a larger yield of honey, while in a great majority of cases a less amount will

be secured. There are seasons when honey is very plentiful, and an averaged location will exceed 5,000 lbs.; yet in 3 years out of 4 the yield will bring it down to this average. Labor can be procured for less than \$2.00 per day, but the man who possesses the skill and energy to successfully manage 100 colonies of bees would command more had his attention been directed to other fields of labor. Money is worth but 7 per cent. in many States, while here in the West it readily commands 10, and taxes and insurance will make the latter figure an average.

HERBERT A. BURCH.

South Haven, Mich.

Hints to Beginners.

In offering a few remarks upon bee-culture, I wish to state in the outset, that I shall not present anything especially new or instructive to very many of those present. But I have endeavored very briefly to indicate for the benefit of beginners, some of the principles, a knowledge of which I consider indispensable to success in this calling. I shall not give any particular details of the practice, but simply offer a few hints, such as seem to me most important.

A question which naturally arises when we observe the large proportion of failures among those who undertake bee-keeping, is as to the cause or causes. These failures may, I think, be accounted for very easily, by any thoughtful bee-keeper of much experience. The old opinion, which ought, by this time, to be entirely exploded, that bees will generally take care of themselves and bring us fabulous returns for little or no investment of capital or labor, is still a stumbling-block to prosperous bee-keeping. Added to this are the deliberate misrepresentations of unscrupulous dealers, whose advertisements are sure to mislead the uninformed.

None of us like to parade our failures, our "bad years," before the public, and consequently the reports in the papers generally show only the bright side, and remarkable yields. Ignorance of the business, then, is responsible for a large proportion of ill success.

What, then, is essential? A thorough knowledge of the business; plenty of application and hard work. Do not begin where the individual did who once wrote us that he had decided to pursue bee-keeping, and wanted to know the price of a pair of bees to begin with. I maintain that it is as important to serve an apprenticeship at this as at any trade or profession. Much general and useful information may be obtained by reading the best works and papers on the subject, but actual practice in an apiary is indispensable. Many persons are naturally unfit for the business, from carelessness and inaccuracy about their work. I know of no out-door pursuit where so much depends on the right thing being done at the right time and in the right way. A willingness to work hard and a determination to succeed are characteristics of the prosperous bee-keeper.

WHEN AND HOW TO START AN APIARY.

Avoid the common blunder of rushing into bee-keeping just after there have been one or two particularly good seasons. The

results of a favorable year are generally very alluring to beginners. The fact is that an extra good yield is usually followed by a very moderate or poor one, and the reverse. So, if one wishes to increase the chances of success in his first venture, he had better begin directly after a poor season. Beginners should purchase but a small number of colonies at first, and increase as experience and success will warrant. Obtain the best that can be found even at a greater expense. It will often prove a gain before the season closes. Spring is the preferable time to purchase bees, and if they are transported a long distance, they will be benefitted by the shipment. Use some practical form of movable comb hive, as otherwise the best results can not be realized.

FEAR OF STINGS.

A very great hindrance to the practical handling of bees is the fear of stings. Every beginner should supply himself or herself with a bee-veil, which will protect the face. A prime necessity, also, is a bellows smoker. This mode of applying smoke for quieting bees is being adopted by nearly all bee-keepers, and is proving invaluable. The extractor for removing honey from the combs without injuring them is a very important implement. Comb-foundation for the brood-chamber is underestimated by many. I anticipate for it a place by the side of the leading inventions of the day.

I have barely mentioned some of the most necessary fixtures of a first-class apiary, without which success can be but limited. But do not make the common mistake of thinking that securing these appliances will ensure success. They are only aids, profitable when intelligently used.

ITALIAN BEES.

The merits of the Italian bee are thoroughly established among enlightened bee-keepers. I can not, at this time, enumerate their special points of superiority, but earnestly advise a careful trial of both Italians and natives, that each may determine for himself which are best adapted to a particular locality. The truth that should stand out most prominently is, that a large force will do a large amount of work, and every effort should be made to secure a large stock of working bees.

A piece of drone comb two inches square in the center of the brood-chamber, is a small thing, yet it is a space in which every 21 days 200 worker bees might be raised. This is not all. If it is located at the center of the cluster there will often be a useless number of drones reared for this season, which are not only useless, but being consumers, are an absolute disadvantage. The management necessary to secure a large working force, is at the very foundation of success and is borne in mind by every intelligent bee-keeper during the entire year. The difference between a poor and good queen may be sufficient to make the difference between the failure and prosperity of a colony. Many practical bee-keepers fail to attach importance enough to the selection of proper stock from which to rear queens.

The problem of successful wintering has



probably been more difficult to solve than any other question of bee management. It is by no means yet reduced to a formula, and is made a subject of careful study and experiment by our best bee-keepers.

SOURCES OF INFORMATION.

I hardly need say where the most modern works and journals giving instruction upon these topics may be found. Every agricultural paper of to-day gives more or less space to this growing branch of industry, besides those exclusively devoted to it; and no bee-keeper can afford not to keep pace with the best ideas, to be found therein.

I urge the organization and attendance of conventions, where the ripest experiences of each may be presented, and all be profited by their discussion.

L. C. Root.

Scientific Bee-Keeping.

READ BEFORE THE SAGINAW FARMERS' CLUB BY DR. L. C. WHITING.

In no department of rural affairs has greater progress been made of late years than in bee-keeping, though but few comparatively have kept pace with the onward march.

Some kind of a movable comb hive is indispensable for the modern bee-keeper. This hive must combine cheapness of construction with facility in the management of the bees. A large number of the most practical apiarists have adopted some form of the Langstroth or Quinby hive. With either of these hives, a full knowledge of the condition of the bees can be obtained at any time. The best hives in use can be made by any one, as they are free from patents.

The kind of bees you get is of much less importance, as these can be changed at any time by changing the queens. One thing is important, that they be strong colonies, and "no others should be tolerated." All the profit of the apiary comes from the strong colonies. If honey is the object sought, very little or no increase should be allowed. If multiplication of colonies is desired, the most economical way is to raise your queens, and as soon as they commence to lay, make the increase by division, rather than by natural swarming. Provide each of the new colonies with a laying queen. Keep those you expect to gather honey, strong in numbers and build up the new ones with brood and bees as they can be spared. Increase as early in the season as possible. You can raise queens as soon as the drones make their appearance, and the colonies are strong in numbers. There are various ways of raising queens, but perhaps as good a way as any for a beginner, is to stimulate the most desirable colony. The bee is as much subject to improvement as any of the animal creation. Care should be taken to breed only from the most desirable colonies, by feeding them regularly every day, a little honey or sweetened water, until they swarm naturally, then divide the old colony into as many nuclei as there are queen-cells. When the queen is hatched and commences to lay, build up, by giving them combs of brood

and bees from others. This can be repeated as often as any colony is strong enough to get the swarming fever. If the bees are not strong enough to swarm, a few queens can be raised by placing one or two frames of brood with the bees adhering, to one side of the hive, separating them from the rest by a division board.

Care should be taken to make this division perfect, so that bees cannot pass from one side to the other, also to see that the queen is not on either of the combs, as well as to know that there are eggs and young brood in the combs. A separate opening for each apartment must be had. In ten days queen-cells will be found and can be placed in nuclei, for hatching. A careful bee-keeper will keep on hand a few young vigorous queens to replace any old or unprolific ones.

Which are best, the Italian or black bees? I prefer the Italians for the following reasons: They are less likely to sting while being handled. The queens are more easily found, seldom or never hiding; they are moth proof; they protect their stores more successfully from robber bees, and gather more honey in a poor season.

The black bees will store as much honey in a good season and are more easily induced to work in the boxes. The greatest danger of loss is in wintering bees. Seek security from this by having all colonies strong and well provided with good sealed honey. Sufficient air to carry off the moisture must be admitted to the hive, care being taken to have no draught through the cluster of bees. If wintered out of doors they should be examined often to see that the entrance is not closed. If all air is excluded they will quickly smother; 30 to 35 lbs. of honey will be required for out of doors and 10 lbs. less if wintered in the cellar. A good quilt or chaff covering is considered desirable over the frames, to let the moisture escape without making a draught of air through the cluster. Cover with the cap of the hive so as to keep perfectly dry. In the fall unite all weak colonies, and thereby save bees and honey. A small colony will require as much honey as a large one, and is very likely to be lost.

The market demands comb honey in small frames or sections, so that it can be sold without breaking bulk; extracted honey by the pound or gallon. The demand for the extracted honey, is increasing, as the people are fast becoming aware of its cheapness and purity.

The best time to handle bees is in the middle of the day when the old bees are out gathering honey. There are then fewer bees in the way and the young bees are not inclined to be cross. If possible avoid opening hives when robber bees are troublesome. The most desirable location for an apiary is where blossoms are found in the greatest variety and abundance. In this part of the State white clover and basswood furnish the main crop, buckwheat and fall flowers furnishing an abundance for their winter stores.

With frame hives and comb foundation the amount of drone comb can be regulated. The foundation with small wire worked into it, is preferable as it will not sag. Use

comb foundation only in the body of the hive. The starters in the boxes, should be of clean white comb, fastened with white glue.

The most profitable time to feed is in the spring and summer when blossoms fall. Feeding induces the queen to lay, and the bees will raise the brood for the coming harvest. The more bees, the more honey.

Care should be taken during the season that the queen has room in which to deposit her eggs. For this purpose the extractor should be used freely. It will be found a gain, even if you have to feed the honey back again to keep the queen laying. As it is desirable that there should be but little unoccupied room, the hive should be supplied with a movable division board.

As the colony increases in size, the board can be easily moved. The tools required for a beginner are first a good manual. A. J. Cook's, of the agricultural college of Lansing, is the latest and best; a honey extractor; a Bingham smoker; a Bingham & Hetherington honey knife; a bee-veil, and tools enough to put hives and boxes together.

The old secret of handling bees with safety, was to alarm them in some way so that they would fill themselves with honey, when they are peaceable, like a natural swarm in swarming time. Bee-keepers use smoke for this purpose. If you have but a few colonies, a small stick of half-rotted wood lighted so that the smoke can be blown amongst them will do, but a good Bingham smoker will save much time; don't fail to get the largest size. One of our best bee-keepers says that the great secret in successful bee-keeping consists in knowing how to keep all colonies strong. To this might be added: Doing the right thing at the right time. Don't cherish the idea that you can keep bees without work. Don't be alarmed if you get stung; pull out the sting as quickly as possible, blow a little smoke over the place and go ahead, you will soon get used to it.

One very important item is to take the AMERICAN BEE JOURNAL. It is worthy of the patronage of every bee-keeper in the land. With these few hints permit me to close, hoping they may assist the beginner in apiculture.

The Central Illinois Bee-Keepers' Association held its semi-annual meeting Oct. 31st, 1878, at Hillsboro, Ill.

Dr. Hobson, of Irving, being called upon, addressed the Convention, showing the necessity of feeding bees during the wet and cold weather in spring, and severe drouths of summer. They require it as much as any other stock, if strong colonies are desired. He thought many hives too large; 1,800 cubic inches are sufficient for brood chamber. The best place for the surplus honey was over the frames. This season was not favorable; from 22 colonies he got but 1,200 lbs.

Mr. Weiher had 65 colonies in spring, and increased to 145. From these he obtained 7200 lbs. extracted, and 1800 lbs. comb honey.

Dr. Allen, of Greenville, said bees had been almost a failure this year with him. He was successful in wintering bees by covering completely with hay or straw.

Mr. J. H. Shlmer, the President, had 40

colonies in the spring; they did nothing till August, when he moved them 12 miles into the country. In Oct. they had stored 2,000 lbs. in 1-lb. sections, which sold readily in St. Louis at 20 cents per lb.

Annual meeting will be held at Hillsboro, Ill., April 1st. Wm. J. JACKSON, Sec.

HONEY SHOW.—Mr. M. W. Carrott made a very fine honey exhibit at the Quincy, Ill., Fair. The *Western Agriculturist* remarks that Mr. C. is "a great admirer of bees, and as successful as the most enthusiastic amateur could wish. His hives are of modern construction. Commencing with common bees, he Italianized them by giving them tested Italian queens; his colonies are now strong, and have been active workers, having filled the prize boxes with the finest honey; he has also taken large quantities from the frames with the honey extractor."

Local Convention Directory.

1878. *Time and Place of Meeting.*

Dec. 3.—Montcalm County, at Carson City, Mich.

4.—Michigan State, at Grand Rapids, Mich.

17.—Northwestern Illinois, at Shirland, Ill.

1879.

Feb. 14.—South-Western Ohio, at Lebanon, O.

April 1.—Central Illinois, at Hillsboro, Ill.

May 6.—Albany County, N. Y., at Clarksville, N. Y.

6.—Central Kentucky, at Lexington, Ky.

28.—North-Eastern Wisconsin, at Hartford, Wis.

Oct. 21.—National Convention, at Chicago, Ill.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

New subscribers for next year will receive the December number free, as long as it lasts. So make up clubs at once. Our clubbing rates with other papers for next year will be as follows:

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We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture.....	\$2 50	\$2 25
Bee-Keepers' Magazine.....	3 00	2 50
The three Bee papers of U. S.....	4 00	3 25
British Bee Journal.....	4 00	3 50
All four—British and American.....	5 50	5 00
American Poultry Journal.....	2 75	2 50
American Agriculturist.....	3 00	2 50
Ohio Farmer.....	3 50	2 85
Moore's Rural New Yorker.....	4 15	3 65
National Live Stock Journal.....	3 65	3 15
Prairie Farmer.....	3 50	3 15
Scientific American.....	4 90	4 35
Western Rural.....	3 50	3 15
Voice of Masonry.....	4 50	3 75

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We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additional copies can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

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We will send a tested Italian Queen to any one sending us **SIX** subscribers to **THE AMERICAN BEE JOURNAL** with **\$9.** Premium Queens will in every case be tested, but not sent till after July 1st.


Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.


Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.


We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at \$2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **Cash** terms, and cannot afford to take the risks of doing a credit business. If we did such a business we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—Injustice to the good customer in order not to be injured to the cash system. The cash system reveals all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

 The National Convention ordered to be printed 1000 copies of the address to "Honey Producers and Consumers," found on page 394. Bee-keepers were expected to get them, and personally ask the editors of the local papers to publish them. They are now ready and will be sent to those desiring them, either from this office, or the Secretary, Dr. Paruly, of New York.

 We have received a copy of "The Amateur's Hand-book of Practical Information for the Work-shop and the Laboratory." It is a ten cent book containing information on almost every subject, and is published by the Industrial Publication Co., New York.

INSECTS ON FLOWERS AND HOUSE-PLANTS, AND HOW TO DESTROY THEM—Is the title of a valuable little book. It tells how to fertilize and stimulate plants, the experiences of cultivators in keeping their plants healthy. Among the topics are these: "*Red Spider*," "*Aphis*," "*Green Fly*," "*Worms in Pots*," "*Rose Slugs*," "*Rose Bugs*," "*Snails*," "*Caterpillars*," "*How to Destroy Insects on Garden Fruit Trees and Vegetables*," etc., etc. It is exceedingly valuable also to Housekeepers, as it tells all about "*Ants*" and all *House Bugs*. It will be sent to any address for 30 cents, by mail, postpaid, by the publisher, Henry T. Williams, N. Y.

 In writing to this office, please do not mix business matters up on the same sheet with articles for publication. It is very inconvenient. Write it on separate sheets, so that the business matter can go directly into the hands of the business manager, and that for publication to the editor—two different persons.

A FARMER'S PAPER.—We ask attention to the card of *The Ohio Farmer*, of Cleveland, O., in this issue of our paper. It is one of the oldest and most valuable agricultural papers in the country. We club it with the BEE JOURNAL for \$2.85.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in fair demand. Prices paid for such, 11@13c. When more than 1 comb in a box, 10@11c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEE-SWAX.—Prime choice yellow, 23@25c.; darker grades, 16@20c.

CINCINNATI.

COMB HONEY.—In small boxes, 11@13c. Extracted, 1 lb. jars, in shipping order, per doz., \$2.50; per gross, \$28.00. 2 lb. jars, per doz., \$4.50; per gross, \$50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—Our low figures for honey are opening up new markets, and in addition to European markets, we are selling extracted honey and wax for the Chinese and Australian markets. Receipts are small but market steady. San Diego county is estimated to produce one million pounds this year. Quotations are as follows: Comb, white, 3@11c.; comb, dark to medium, 7@8c.; extracted, 4 1/2@6c.

BEE-SWAX.—25@27c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, new, 12@15c.; extracted, new, 7@8c.; buckwheat comb honey, 10@12c.; beeswax, prime, 27@c.

H. K. & F. B. THURBER & Co.

Michigan State Convention.

The annual meeting of the Michigan State Bee-keepers' Association will be held at the Supervisors' Hall, on corner of Lyon and Ottawa streets, in the city of Grand Rapids, Mich., commencing Dec. 4th, 1878, at 2 o'clock p. m., and continuing two days. More than a score of the prominent bee-keepers of Michigan will take part in the programme, and nearly every branch of bee-culture will be considered by those specially proficient in the several branches. Valuable articles from several of the most extensive bee-keepers in the United States are also promised, and the session promises to be more interesting and valuable than any yet held. A cordial invitation is extended to all in any way interested in bee culture to be present. The following are the names of some of those who will take part in the exercises:

R. M. Arko, Ky.; Fisk Bangs, Lansing; H. A. Burch, South Haven; M. S. Baker, Santa Monica, Cal.; Mrs. L. W. Baker, Lansing; J. Butler, Jackson; Frank Benton, Detroit; T. F. Bingham, Osego; Prof. A. J. Cook, Lansing; Miss Davis, Delhi; James Heddon, Dowagiac; O. J. Hetherington, Saginaw; Capt. J. E. Hetherington, N. Y.; R. F. Kedzie, Agricultural College; C. F. Muth, Cincinnati, O.; T. G. Newman, Editor of AMERICAN BEE JOURNAL, Chicago; J. H. Nellis, N. Y.; J. L. Penbody, Denver, Col.; D. Palmer, Hart; Hiram Roop, Carson City; B. W. Southard, Kalamazoo; J. H. Townley, Tompkins; Paul L. Viallon, La.; Dr. Whiting, Saginaw; Miss L. A. Wilkins, Farwell.

A fine display of apianian supplies will be on exhibition.

A. B. CHENEY, President.

T. F. BINGHAM, Secretary.

Everett's Extractor Corner.

Sparta Center, Mich., Sept. 18, 1878.

B. O. EVERETT, Esq., Toledo, O.: My Dear Sir:—Our honey season is now over, and after having given your Extractor a thorough trial, I am fully satisfied it is excelled by none. Mine being 4-framed, I suspected the gear might be too light; but find it heavy enough—would have it no heavier. Every ounce added weight makes it run heavier. Would dislike to have the canal leading to faucet covered. Yours truly,

A. B. CHENEY, Pres. Mich. Bee-keepers' Ass'n.

Gibsonburg, O., May 17, 1878.

B. O. Everett:—Extractor came all right, and is according to order. We feel well pleased with it, and there have been three bee-keepers to see it to-day. Two of them have Root's extractor, and they say yours is ahead of his in several respects. Hoping you may have good success, we remain, yours,

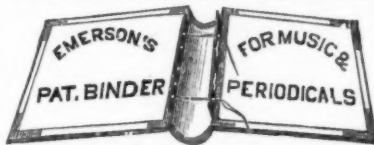
BAIR & HOLCOMB.

I have many like testimonials from practical apianists from all parts of the country, whom we all know to be sound in their judgment—not unripe testimony from novices.

B. O. EVERETT.

Toledo, O., Nov. 22, 1878.

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We can furnish Emerson's Binders for THE AMERICAN BEE JOURNAL, at the following prices, postage paid:

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